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CURRENT TRENDS IN PORT PRICING



U.S. Department of Commerce/Maritime Administration

CURRENT TRENDS IN PORT PRICING

prepared by
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U.S. Department of Commerce
Maritime Administration
Office of Commercial
Development
Office of Port and
Intermodal Development

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FOREWORD

Competition and enterprising self-sufficiency are the cornerstones of the American port industry. Local public control and individual decisionmaking are characteristics which differentiate U.S. seaports from their foreign nationalized counterparts. As a system, U.S. ports facilitate the movement of waterborne commerce for the world's greatest trading nation. As an economic function, U.S. ports are catalysts for the generation of local revenues, jobs and development.

A key to the maintenance of self-sufficiency for ports is an intelligent pricing policy. The reinvestment of revenues are being depended upon more and more by port management as a source for developmental financing. As time progresses, the appropriate manipulation of tariff rates will become increasingly important as ports attempt to fully recover costs while still effectively competing for cargo. The identification of existing pricing practices, philosophies and trends has not heretofore been available and without such basic information it would be difficult for port management to make advantageous decisions.

This apparent void in port pricing information is the primary reason the Maritime Administration accepted the proposal of an independent consultant to investigate the existing pricing practices in U.S. seaports. Paul A. Amundsen is uniquely qualified to have undertaken the subject research. As Director of the American Association of Port Authorities from 1948 to 1974, Mr. Amundsen not only acquired an expertise for seaport activities, but he also became quite familiar with the philosophies and politics that are inherent in public port management. His general acceptance by port management has been invaluable in his exploration of pricing practices and other relevant areas that traditionally command a high degree of sensitivity.

The methodology employed in the preparation of this report was comprehensive. The focus was on pricing unique to public port usage. These rates are uniformly known as dockage in the case of the ship; and wharfage in the case of the cargo. Detailed tariff research covering 21 ports for 10 years was accomplished with the assistance of the Office of Domestic Commerce of the Federal Maritime Commission. Twenty-eight representative ports from all four coasts were visited and management was interviewed to ascertain the latest operating procedures for rate setting. Additionally, an industry review panel selected for its coastal and professional representation closely monitored the progress and direction of this research. The end product is a truly unique report with definitive findings regarding the overall importance of pricing policy to the accomplishment of the multifaceted objectives of public seaports.

INTRODUCTORY NOTE

There is a minimum identification of ports in "Current Trends in Port Pricing". This began as a deliberate attempt to avoid the appearance of a catalog or shopping guide. But as the work developed it became obvious that emphasis on level and basis of rate has been nicely sharpened as a by-product of that decision and that a certain amount of fresh perspective is gained through depersonalization of the data. This is particularly valuable for the manner in which rates and practices may be compared within and between regions.

It should be emphasized that (given the amount of movement in usage rates) prices shown will already be obsolete as this report becomes available. They illustrate a condition that existed in December 31, 1977.

Special attention is drawn to the explanations of the CAPA and NWMTA formulas. These are the Freas Formula derivatives in current use and a great deal of national port interest in them has been noted during the course of this research. They are set forth here in a "popular version" permissive of ready grasp of the technique for both operating and non-operating authorities.

Finally, this study relates primarily to tariff-rated facilities, although basic pricing practices are also broadly treated as regards leased facilities.

PAA
8/15/78

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RECOMMENDATIONS

The public port industry should address a revenue supported facilities assurance program as an industry-wide effort in self-regulation, without any additional Government regulation or controls.

The effort need not and probably could not be mandated or monitored in an organizational sense. Movement should be voluntary.

Individual Ports Should (not having already done so):

1. Develop a careful and realistic assessment of the revenue supportive shortfall in their tariff rated facilities, taking into account depreciation factors and replacement requirements; a fair rate of return; rates of inflation; and levels of cargo volume.
2. Consider participation with existing or new regional or sub-regional Marine Terminal Conferences for purposes of discussing rates and charges.

New or Existing Regional or Sub-Regional Marine Terminal Conferences Should (not having already done so):

1. Work toward uniformity in the basis of assessing charges within the region.
2. Develop bridge agreements with other regions for purposes of discussion, including uniformity of rate bases.
3. Develop for the region a phased approach for overcoming the revenue supportive shortfall. Ideally such a program should be:
 - A. Limited to the provision and maintenance of the operating platform* through traditional usage charges against ship and cargo.
 - B. Approached on a basis of manageable rate adjustments over a suitable time frame.

* Defined as the physical plant provided for use in ship/cargo

- C. Participated in on a voluntary basis, including the grouping of ports by type within the region and allowances for individual situations.

The common objective should be, over time, to elevate the entire plane of port usage pricing to a point of reasonable relationship to cost.

CHAPTER I

TRADITIONAL PORT DEVELOPMENT PHILOSOPHY

AND RECENT AND EMERGING IMPACTS

As a beginning, each United States seaport publishes a "tariff", which is a price list of its rates. Because it is not feasible to make an individual arrangement with each arriving user of the port, the tariff is a uniform offer to all users. Use of the facilities of the port constitutes acceptance of that uniform offer. (It also constitutes acceptance of the rules and regulations and definitions and authorities cited in the tariff.)

Within the tariff are schedules of rates, of which there are two basic types. These are:

Rates involving services to the ship or the cargo, such as line handling, utilities, water; handling, segregating, or marking cargo; equipment rental; etc. (These rates apply for "operating" public ports.)

Rates involving simply usage of a facility by the ship and by the cargo.* These rates are uniformly known as dockage in the case of the ship; and wharfage, in the case of the cargo. They do not include any services. (These rates apply at all ports, although in some cases the revenue is retained by the lessees.)

Port pricing of services follows patterns that are universal to any service enterprise. Labor, materials, and equipment costs are computed; operational and administrative overheads are added; and a margin is selected commensurate with a review of the market place balanced by immediate competitive objectives and other organizational revenues.

* There are other kinds of usage charges that will be discussed in this study. Also "usage" has a specific meaning in some tariffs, not related to dockage or wharfage.

The focus of this study is pricing unique to the public port industry. Therefore, with the above comment, the pricing of port services is set aside for purposes of examination of the pricing of port usage. It is the usage pricing which, in those cost formulas applied in current practice, is expected to amortize the investment in land and structure.

The objective of the study is to set forth new conditions as they are developing in such a manner that both practitioner and policymaker may be provided with a frame of reference ranging beyond daily experience and perhaps beyond outdated attitudes and fears. From such a frame of reference orderly approaches can evolve. Some of these have already begun and a wider appreciation of them will be found very useful.

Backgrounds

Historically, recovery of cost of marine terminal land and structure by means of pricing based upon cost has never been a clear-cut objective of public port administration. The public port industry of the United States has developed from the willingness of local seaboard communities to invest public funds in shoreside facilities for the purpose of handling waterborne commerce. It is assumed that such investments carry many-fold rewards to the community in the form of commerce, industry, employment, and a greatly augmented tax base. Its management thrust continues to reflect that concept, remaining thoroughly oriented to public service considerations as a primary philosophy.

As a well validated concept it has been quantified many times. A recent national study* finds that for the year 1977 the port industry is directly and indirectly responsible for:

Gross sales within the economy of \$56 billion

A \$30 billion contribution to GNP

1,046,800 jobs

Personal income of \$19.2 billion

Business income of \$7.4 billion

Federal taxes totalling \$10.4 billion

State and local taxes amounting to \$4 billion

* "Economic Impact of the U. S. Port Industry", MarAd, 1978

Against those primary objectives of community investment in facilities, the prices charged for the use of those facilities by ships and cargoes have historically remained incidental to the greater rewards flowing to the community. Held at depressed levels as an attraction to the traffic creating the rewards, they bore little relation to cost, and they were static for long periods.

Within the past 10 years a remarkable change has taken place in that these charges have, almost suddenly, become dynamic. They began to show activity during the latter half of the 1960s among the major port centers and the rate of activity has become more and more rapid since. Various impacts upon the industry, both external and internal, are considered to be responsible.

External Impacts

External impacts upon public port usage rates are those relating to national and international conditions and developments. Among these are inflation; availability of public funds; and mandated costs. The relationships of these impacts to port pricing are obvious, but some specifics give background helpful to understanding of the dramatic difference in pricing activity that is taking shape in the industry as a result of external forces.

Inflation

In terms of port development, the Construction Cost Index (Engineering News Record) shows an increase of 223.7 percent for the period 1968/1977. (See Figure 1.) In terms of channel and slip development and maintenance, dredging costs have tripled in recent years.

In terms of operating equipment, the price index for industrial goods (see Figure 2) shows an increase of 195.8 percent for the period 1968/77. Heavy equipment items such as lift trucks have moved in cost from \$4,000 to the range of \$8,000 to \$10,000.

The above are the costs that directly relate to port usage charges as previously defined.

Availability of Public Funds

Social impacts upon state and community tax revenues include welfare, health care, education, crime prevention, public transportation, and a number of other broad areas which compete for the tax dollar. The degree to which public port agencies of the U.S. participate in local or state tax revenues for developmental purposes (and in some cases for operation and maintenance support)

Fig. 1 - Construction Cost Index

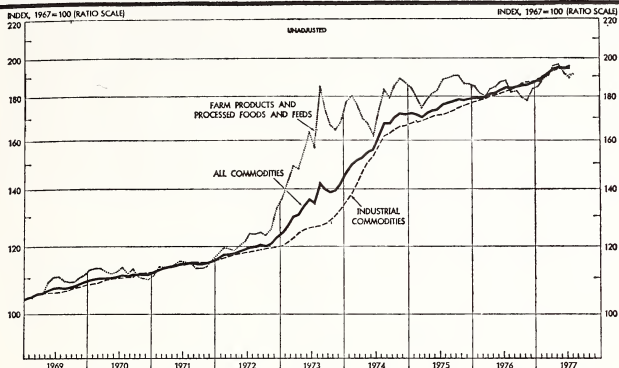
<u>Period in Which Constructed</u>	<u>"Engineering News Record" 20 Cities -- U.S. Construction Cost Index</u>	<u>Percentage to Apply to get 1977 Reproductive Cost</u>
Prior to 1930	200	1,289.6
1931 - 1940	210	1,228.2
1941 - 1945	280	921.1
1946 - 1950	420	614.1
1951 - 1955	600	429.9
1956 - 1960	750	343.9
1961 - 1965	910	283.4
1966	1,028.65	250.7
1967	1,067.88	241.5
1968	1,152.78	223.7
1969	1,284.96	200.7
1970	1,368.66	188.4
1971	1,575.05	163.8
1972	1,716.42	150.3
1973	1,903.85	135.5
1974	2,014.40	128.0
1975	2,247.74	114.7
1976	2,398.80	107.5
1977	2,579.19	100

Fig. 2

PRICES

WHOLESALE PRICES

In July, the wholesale price index rose 0.2 percent (fell 0.1 percent seasonally adjusted). Prices of farm products and processed foods and feeds declined 1.1 percent (2.1 percent seasonally adjusted). Industrial commodities prices were up 0.6 percent (0.5 percent seasonally adjusted).



SOURCE: DEPARTMENT OF LABOR

COUNCIL OF ECONOMIC ADVISERS

[1967 = 100]

Period	All commodities	Farm products and processed foods and feeds	Industrial commodities	Farm products	Processed foods and feeds	Special groupings					
						Crude materials ¹	Intermediate materials ²	Producer finished goods	Consumer finished goods excluding foods		
									Total	Durable	Non-durable
1969-----	106.5	108.0	106.0	109.1	107.3	110.6	106.1	106.9	104.6	104.0	105.0
1970-----	110.4	111.7	110.0	111.0	112.1	118.9	109.9	112.0	107.7	106.9	108.3
1971-----	114.0	113.9	114.1	112.9	114.5	122.7	114.3	116.6	111.2	110.8	111.7
1972-----	119.1	122.4	117.9	125.0	120.8	131.1	118.9	119.5	113.5	113.2	113.6
1973-----	134.7	159.1	125.9	176.3	148.1	155.2	128.1	123.5	118.6	115.8	120.5
1974-----	160.1	177.4	153.8	187.7	170.9	219.1	159.5	141.0	138.6	126.3	146.8
1975-----	174.9	184.2	171.5	186.7	182.6	225.1	178.6	162.5	153.1	138.2	163.0
1976-----	183.0	183.1	182.4	191.0	178.0	249.9	189.5	173.2	161.8	144.4	173.3
Unadjusted											
1976: July-----	184.4	188.1	182.7	194.2	180.5	252.7	189.1	173.1	161.5	144.2	173.1
Aug-----	183.8	181.7	183.8	187.7	175.9	254.4	190.3	173.6	162.5	144.9	174.2
Sept-----	184.8	182.9	184.8	189.2	176.0	253.1	192.0	174.5	163.7	145.7	175.6
Oct-----	185.3	179.5	186.3	188.2	174.9	262.4	193.3	176.3	164.6	146.5	176.7
Nov-----	185.6	178.3	187.1	187.1	175.6	271.6	194.3	177.0	165.5	146.8	178.0
Dec-----	187.1	183.9	187.4	191.9	178.8	265.9	195.5	178.4	165.8	146.9	178.4
1977: Jan-----	188.0	184.8	188.4	194.0	178.6	262.6	196.3	179.2	167.4	148.0	180.3
Feb-----	190.0	188.4	189.9	198.3	181.9	273.0	197.4	180.1	167.9	148.8	180.7
Mar-----	191.9	190.9	191.6	203.3	185.4	279.3	199.1	180.8	169.2	149.4	182.5
Apr-----	194.3	195.9	193.2	210.2	190.1	280.1	206.3	181.8	170.4	150.5	183.7
May-----	195.2	196.8	194.2	205.3	193.5	282.4	200.9	182.8	171.2	151.1	184.6
June-----	194.4	191.5	194.6	191.3	190.2	277.9	201.4	183.6	171.9	151.6	185.6
July-----	194.8	189.3	195.8	187.9	185.6	277.8	202.4	184.4	172.3	152.0	185.9
Seasonally adjusted											

¹ Excludes crude foodstuffs and feedstuffs, plant and animal fibers, oilseeds, and leaf tobacco.

² Includes supplies and components; excludes intermediate materials for food manufacturing and manufactured animal feeds.

Source: Department of Labor, Bureau of Labor Statistics.

Source: Joint Economic Committee of Congress - "Economic Indicators"

varies considerably by coastal area, but to that degree there is a competitive factor with social impacts. This applies whether a direct appropriation or a tax supported bond issue is involved.

While there is some rebirth of political recognition of port development as an economic stimulus, the political appeal of the direct social services use of tax revenues remains formidable and there is evidence that it is one of the forces of change in traditional port pricing considerations. At bottom, Federal Government spending equaled 23.9 percent of total personal income in 1976, up from 14.8 percent in 1947; but state and local spending has grown even faster, from 7.6 percent in 1947 to 17.9 percent in 1976.* Taxes totaled 41.8 percent of personal income in 1976. The difficulty of adding to the burden through the public budget or through a proposition on a ballot, in competition with more highly visible social demands, is apparent. Greater use of revenue financing by ports is a result. (See Fig. 4.)

Mandated Costs

Mandated costs are those costs incurred by seaports (and others) by legislative or administrative action in such fields as environmental protection, safety, and security. The direct capital expenditures and operating costs descending upon public port development as a result of these actions has been recently quantified by MarAd** as follows:

Cumulative capital costs ('70/'76)	\$138,799,000
Annual capital costs (future)	\$ 49,890,000
Cumulative operating costs ('70/'76)	\$ 55,119,000
Annual operating costs (future)	\$ 13,954,000

It is interesting to note, in connection with the foregoing discussion on availability of public funds, that some 80 percent of the cumulative capital cost is being financed from port revenues or revenue bonds. The balance is being financed through state and local appropriations, with some use of general obligation bonds. While many smaller type projects more applicable to port revenue allocations are involved, the weight of revenue financing is obvious from this example.

* As of 6/15/78, twenty-nine states were experiencing taxpayer efforts similar to California's "Proposition 13" which cut property levies by more than 50 percent.

** "The Effect of Federal Standards on U. S. Public Port Development", MarAd, 1977.

Hidden Costs. Mandated costs are an arbitrary cost akin to inflation, and are another factor in port pricing on a cost-oriented basis. When considered in relation to inflation, they carry hidden cost factors of a formidable nature. For example, if the construction cost index shows a gain of $17\frac{1}{2}$ percent over a 2 year period typically devoted to obtaining a construction permit, then the resulting cost of construction has increased by that amount through the bureaucracy surrounding environmental review.

An even more important hidden cost is the effect of environmental concerns upon land values in port and marine terminal areas. Because of the environmental controls imposed, the availability of such land is reduced, which has the effect of increasing the cost of land on a supply and demand basis. Land development restrictions are so rigorous as to drive up the cost on a direct basis. If land experiences a rate of return equal to that expected on structures, as it does in those uniform cost formulas which serve as a foundation for port pricing, then the effect upon pricing is apparent.

Environmental costs constitute a preponderance of mandated costs, followed by cargo security and health/safety regulations.

Cargo security regulations translate into greatly increased costs for sophisticated lighting as well as for fencing, gate houses, and electronic and automotive surveillance equipment.

Health/safety regulations apply to toilet facilities, internal lighting, and other worker-oriented physical changes in structures.

Internal Impacts

For purposes of this study, internal impacts are considered to be developments within the industry having a direct effect on pricing considerations. These relate to ships and cargoes and the principal ones are technological developments and trade trends.

Technological Impacts

The general increase in the size of vessels that has taken place over the past 10 to 15 years* has made a major technological impact upon port facility cost. The development of containerization over a similar period pertains to that trend but has other effects of its own.

* See "Merchant Vessel Size in the U. S. Offshore Trades by the Year 2000", AAPA, 1969.

Vessel Size. Vessel size affects the port facility in many ways, including:

Deeper slips, (compounded by dredging cost increases).

Deeper wharf face, which affects length of piling and height of fendering, (compounded by construction cost increases).

Larger operating areas, (compounded by construction cost increases).

Containerization. Intermodalism has created a whole new range of design standards involving large paved areas fronted by substantially longer berth units (vessels exist in the 900' range). The central cost factor is the paving requirement relating to the use of much heavier equipment units. One port gives this as follows:

Cost for paving, lighting, drainage, per acre:

Container storage area	\$95,000
Conventional paving (auto storage)	\$55,000

Cranes and large equipment units used in the yard handling of containers are either owned by lessees or, if owned by the port, amortized through hourly use rentals. As previously stated, this type of service-oriented pricing is outside the scope of this study.

In addition to paving, special facilities such as crane rails, power trench, entry complex, control tower, etc. drive the cost of one container berth to more than double that of two conventional berths.

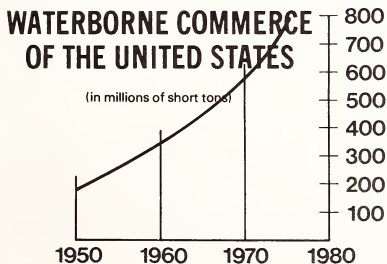
Trade Trends

The steadily increasing volume of world trade through the United States ports (Fig. 3) is without doubt the major factor in the dramatic change in port pricing philosophy. To appreciate this effect, it is necessary to recall past history. Then the public investment climate and depressed port rate structure was the product of a much smaller trade influx during a period of far less liberal trade policies and limited overseas travel and communications.

**Fig. 3 - GROWTH OF
U. S. WATERBORNE FOREIGN TRADE**

1977 - 915.0 (est.)

1976 - 855.9



Source: Department of the Army Corps of Engineers

The general availability of healthy cargo movement allows for more freedom of upward rate adjustment by the port, and it also allows for some selectivity as to types of cargoes to be handled. There is evidence that some ports are already taking a close look at costs of handling specific commodities.

Good cargo movement can in some instances, have a reverse effect upon port pricing. In a smaller port, with operations conducted over well-amortized older facilities, fuller utilization will result in a satisfying net revenue picture not conducive to upward price adjustment in the absence of an organized program of replacement funding.

Summary

Drastic impacts over a relatively short span of time are affecting port pricing considerations to a degree never previously experienced. These impacts are causing radical changes in traditional concepts of public port development.

This is illustrated in Figure 4, which shows that for the national totals, the combination of Earnings plus Revenue Bonds was responsible for 71 percent of funds available for Acquisition of Plant Investment in the period 1974-75-76. The traditional sources of G. O. Bonds, Tax Levies, and Appropriations made up the balance of 29 percent in available capital funds by 34 ports.

Just a few years earlier, reports from 20 ports* in connection with developmental expenditures for the period 1966/72 showed a pattern of only 41 percent for the combination of Earnings plus Revenue Bonds; and 59 percent from G. O. Bonds, Tax Levies, and other traditional sources. The shift from public funds to revenue financing was one of more than 180 degrees in the period of a decade.

There is a dual impact upon port pricing as a result of this trend. On the one hand a traditional source of developmental financing relating to public service pricing is diminishing. It is being replaced by a finance resource dependent upon cost related pricing. Hard money is replacing soft money.

* Source: "Public Port Financing in the United States".
MarAd, 1974.

AMERICAN ASSOCIATION OF PORT AUTHORITIES

Summary of Port Financial Survey

Gross Plant Investment(Plant, Property and Equipment)-In Thousands of Dollars

	Total Plant Investment 1976	Funds applied for Acquisition of Plant Investments 1974-75-76	Sources of Funds Available for Acquisition of Plant Investment - 1974-75-76								
			Earnings		Revenue Bonds		G. O. Bonds		Federal & State	Tax Levy	Other (Unspecified)
<u>National</u>											
Total	\$2,487,432	421,977	179,365	173,157	68,667	41,940	25,407	104,561			
Ports reporting	34	30	20	14	11	6	6	10			
<u>Gross Plant - over \$80,000</u>											
Total	\$1,904,410	329,791	141,325	148,059	51,206	41,375	20,700	83,586			
Ports reporting	9	9	6	5	5	5	1	2			
<u>Gross Plant - \$20 to 80,000</u>											
Total	\$ 353,818	42,208	14,643	8,963	-	-	3,130	15,472			
Ports reporting	9	7	3	1	-	-	3	4			
<u>Gross Plant - \$10 to 20,000</u>											
Total	\$ 194,256	45,187	20,786	16,135	17,461	565	1,577	2,893			
Ports reporting	11	11	9	8	6	1	2	2			
<u>Gross Plant - Below \$10,000</u>											
Total	\$ 34,948	4,791	2,611	-	-	-	-	2,610			
Ports reporting	5	3	2	-	-	-	-	2			

CHAPTER II

BACKGROUND ON PORT PRICING

The trend toward self-support in port operations appears to be of world-wide dimension. Many countries that have established autonomous authorities in the recent past have stipulated in enabling legislation that the enterprise be self-supporting.* In more developed countries, large-scale financing of modern port installations have convinced governments that port development can and should be treated as a self-sufficient enterprise.

As emphasized in recent industry discussions and confirmed by a number of interviews in connection with this study, self-support also appears to be a general objective among United States ports.

Port Usage and Remunerative Revenues

From the point of view of the public port agency, the objective of self-sufficiency is one of providing the operating platform (in "bare boat" condition) at usage rates or rents which will amortize land and structure costs and cover annual expenses and overheads applying to care and supervision of the facility. All U. S. ports face that common basic consideration. Whether the platform is being provided for the port agency's own use in conducting operations thereon, or for the use of operating entities on an assigned or exclusive basis, is in the broad sense a question of local option that is aside from direct amortization of the physical plant.

While the elimination of the many operational variables from consideration allows some sense of order in approaching port pricing, it still remains difficult to deal with the subject through common denominators. The platforms in question remain of different ages, efficiencies, and degrees of obsolescence. Attitudes vary on depreciation as a book entry. The degree to which there is dependency on tariff revenues versus fixed rentals is another variable, as is cargo volume or facility utilization. With that as background, the following information has been developed.

* Borrowings from international lending agencies are a factor.

The Usage Rate Shortfall

A general consensus among port managers is that port usage charges identified with perpetuation of the operating platform (dockage plus wharfage) would have to be doubled to make them self-supporting. The shortfall exists mainly in the older break-bulk type cargo facilities and the cost of maintaining and carrying them. The problem is more acute in some areas (estimate: triple) and less acute in others (estimates: 25 percent to 50 percent increase needed).

Extent of Tariff Based Revenue

In those port areas where it can be quantified with some meaning, the combination of wharfage and dockage revenue totals 40 percent to 45 percent of total port revenue. The other 60 percent to 55 percent is revenue from a number of other sources, including operations, leasing, and sources not necessarily marine related, including backland income.

Review of Tariff Rates

In most ports of the United States the tariff is left to the port manager and there are no policy arbitraries as regards review or adjustment. As a practical matter, however, tariffs undergo staff review on an annual basis at most ports. In some areas where there is a high level of rate consideration this review may be more frequent. In areas where usage charges are reviewed in conjunction with labor rate revisions as a result of union contracts, review may take place at less frequent intervals of as much as 3 years.

In areas where there is a structured Section 15 Agreement as regards ratemaking on a conference basis, review is annual.

In review of tariff rates, most ports give primary attention to tariffs of other ports of the immediate coastal region. This appears to be also true in Section 15 type areas where the primary focus is on the cost relationship of the rates. Less attention is given to tariffs of other coastal regions in a general sense, but a number of specific situations exist in which, for competitive reasons, a port may be as concerned about another region as about its own.

Tariff Review on a Cost Basis

Cost oriented port pricing philosophy has been precisely

defined in the recent statement of a port administrator as follows:*

"We analyze our costs very carefully. We use an industrial engineering approach to this initially, and then battle it out with our Finance Director to determine the appropriate assignment of overhead costs to each specific operation. We depreciate all of our investments according to standard accounting principles, and provide for debt service off the top. No element of cost is left unaccounted for in identifying our cost base... As a fundamental policy, we will not price any service below cost. We have no 'loss leaders'...

"With our cost base well in mind, we then look to the right and left to see what our competitive pricing constraints may be. When these are identified, we compare with our cost base, and make quick decisions either to go along with the competition, or to price ourselves out of the market. We do not see ourselves as a benevolent organization, and will not artificially subsidize any class of traffic or service. In our view, this is the certain road to ruin for any enterprise, ports included."

Competitive Aspects of Port Usage Rates

When asked about constraints upon port pricing, all ports list "competition". A minority of other mentions received includes "historic pricing situations"; "old staff attitudes"; and there is mention of "commissioner attitudes". This last relates to consideration of a pricing increase as controversial or at least sensitive. The record, however, does not show this.

Among port areas most active in cost related pricing, exploration of the history of the effort reveals very little complaint and no loss of trade. In areas where the Section 15 approach is relatively new the same applies, frequently to the surprise of administrators who have been exposed to the pre-1968 period of static rates.

The general discovery that has been made, and this has been said in interviews in widely disparate areas of the Nation's

* Remarks of W. Don Welch, Executive Director, South Carolina State Ports Authority. Panel on Port Pricing, AAPA Convention, Mexico City, October, 1977.

coastline, is that the trade is "willing to pay for good service, fairly priced".

Accompanying this thinking is a large body of opinion that the competitive effect of usage rate levels is minimal as compared to other competitive considerations.

Who is the Competition?

An interesting sidelight to the competitive aspect of port ratemaking is that a port's knowledge of its competition may be less than perfect. On several occasions when asked about the competition, it was specified as "those fellows over there". When interviewed, "those fellows" sometimes pointed in an entirely different direction to their competition.

In a broad sense the answer to this type of misunderstanding lies closer to the fact that exporters and importers in the heartland of the United States - Ohio, Indiana, Michigan, Illinois, Wisconsin, Minnesota, etc. - have a choice of ports that range from the Great Lakes to coastal ports from Montreal in the north to the Texas ports in the south. The rail rates are very close and sometimes the difference is no more than a few cents a ton. Any port has a chance to compete for some of this traffic.*

* Remarks of C. B. O'Hara, Director of Port Commerce, The Port Authority of New York and New Jersey, AAPA Convention of November, 1968, Curacao, N.W.I.

CHAPTER III

PORT PRICING AND THE MARKET PLACE

As stated in Chapter II, persons queried as regards the constraints surrounding the pricing of port usage have a single answer: "competition". This is another way of saying that the fear of loss of business to a competitor port is the major barrier to rational port pricing. The apprehension centers largely on the shipper, whose economic options exist in the form of port location vis-a-vis the inland and ocean rate; and port costs chargeable to the cargo.

Because inland rates are regulated and steamship conference rates are uniform, the land and water segments of the through rate are not negotiable items (unless of course there is sufficient movement to support a contract which may be bargained). This leaves port costs as the item which may be shopped. Because some port costs are labor-oriented, such as "handling", these are also inflexible to a degree, and so the supposed pressure point becomes the wharfage charge for the usage of the port facility by the cargo.

The port has two barriers as regards this kind of market place pressure. One of them is the published tariff, which must be adhered to as regards these rates although the rate for a specific type of cargo may be changed for a competitive purpose. The other is the marine terminal conference or Section 15 Agreement, which stabilizes the rates for a port region by agreement of the participating ports. Here again some commodity rates on wharfage may be exempted on a "sacred cow" basis. However there can be no doubt that this kind of conference ratemaking is important as the foundation of a positive approach in the pricing of port usage.

In the interview series basic to this study only a few instances were found, on a specific basis, where wharfage had a competitive effect. These were instances of volume, as:

Full shipload type commodities, such as sacked rice.

Regular movements at fixed intervals over a period of time.

There is a large body of doubt among port executives as to whether the usage charge is indeed a factor at all in port competition. More critical, they say, is the availability of space for cargoes, and the free time factor in the assembly thereof.

With the above as background, it will be useful to examine the market place in a quantitative way, so that a perspective may be gathered as regards the position of the wharfage charge in the through rate from the point of view of the shipper. Port usage by the ship, in terms of the dockage charge, will also be quantitatively examined as a factor in port competition.

Shipper Considerations in Port Selection

A survey published in January, 1978 by "Distribution Worldwide" (a Chilton Publication) covering more than 2,000 traffic and distribution managers, found that the great majority of shippers rely primarily on service, convenience, and habit when they choose a port. "Cost is not a major consideration in port selection," this study reports. Relative importance of port facilities and services to respondents and weighted value of each service or facility was given as follows:

Wide selection of motor carriers and railroads	19.1%
Sophisticated tracing system	14.8%
Adequate container cranes and handling facilities	14.6%
Sufficient warehousing facilities	9.9%
Good consolidation services	9.8%
Reliable export packing services	8.5%
Availability of heavy lift services	8.1%
Enough marshalling area for cargo	8.0%
Presence of bulk commodity terminal	5.5%
Availability of cold storage services	1.7%

Among the relative importance of types of ocean carriers to respondents, "scheduled liner service to major markets" received a weight of 28 percent, by far the largest weight given for this area of port consideration.

In a survey of 264 manufacturing firms based in the State of Illinois, (chosen for its heavy export volume from a centrally located area) American Seaport magazine (Amundsen Publications, Inc.) in early 1978 found the following:

Predominant Criterion, Routing of Export/Import* Shipments

<u>Criterion</u>	<u>No. of Companies</u>	<u>Percent of Total</u>
Expeditious carrier and port service	79	30%
Lowest through cost	74	28%
Service & cost	58	22%
Varies (diversified shipments)	53	20%

That port costs are always a significant factor in selecting a routing involving an overseas point was reported by only 38 percent of the companies.

The location of these shippers and their greater number of port selection options in terms of through cost of shipments may explain the somewhat heavier emphasis on cost in the Illinois survey.

Port Usage Charges as a Segment of Through Cost

An example of wharfage as a segment of through cost is graphically presented in Figure 5, relating to rates on motor wheel rims from Lansing, Mich. to Paris via the Port of Detroit. It is used in the AAPA Port Management Development Seminar in marketing presentations by Dr. John Hazard, Professor of Marketing and Transportation, Graduate School of Business Administration, Michigan State University, and it shows that for this shipment a wharfage expense of \$24.00 at Detroit was slightly more than one-half of 1 percent of the freight bill of \$4,295.60.

Other examples are furnished by the Houston Port Bureau. These are the result of research done on OCP and Mini-Bridge rate cases before the FMC and since updated. They are shown here only for

*Interestingly, Illinois shippers say they control the routing of 93 percent of import tonnage.

N.O. 1 IMPORT-EXPORT (COSTS)

5. E.-I. Costs.

Item-Motor wheel rims
 Weight - 48,000 lbs.
 Cube - 4,800 cub. ft.
 Value - \$25,000 origin.

		Lansing	Detroit	Le Harve	Paris
		FOB (Lansing) \$25,000	FAS (Detroit) \$25,345.60	CIF (LeHarve) \$28,945.50	FOB (Paris) \$32,295.50
		+ Truck rate (\$259.20)	+ Handling (\$62.40)	 + Ocean Freight (\$3,600.)	+ Customs - \$1,750.00
			+ Wharfage (\$24.00)		+ Inland Frgt. - \$350.00
			+ Dockage (\$4.80)		

RATE DETERMINATION:

Truck:	Handling	Ocean Freight	Customs - 7% ad valorem
@34¢	@13¢	Weight or measure	.07 x 25,000 = \$1,750.00
x 4800 CWT	x 480 CWT	Ship's option	Inland Freight
\$259.20	\$62.40	Weight - 48,000 lbs. = 21.4 L.T.	73¢ x 480 CWT = \$350.00
	Wharfage	Measure - 4,800 cu.ft. = 120 M.T.	Agency Fees* = \$1,250.00
	@5¢	40 cu.ft.	
	x 480 CWT	120 x \$30 per ton = \$3,600.00	
	\$24.00		

*Other Charges:

Port terminal charges	-0.4% =	\$91.20
Freight forward & customs broker	- 3% =	\$750.00
Marine insurance	- 1% =	250.00
Banking charges	- 1% =	250.00
Agency fees		\$1,250.00 - 5%
Tariff duty		1,750.00 - 7%
Transportation & log.		4,295.60 - 17.2%
Summary		\$7,295.50 - 29.2%

purposes of comparative identification of the wharfage charge in through cost.

AUDIO EQUIPMENT I.E.
RADIO, PHONOGRAPHS, AMPLIFIERS, ETC.
RATES EFFECTIVE MARCH 1, 1978
FROM JAPANESE PORTS TO KANSAS CITY, MISSOURI

RATES IN CENTS PER 2,000 LBS.

	<u>All-Water to Houston Thence Rail COFC</u>	<u>Yangming</u>	<u>OCP All-Water to Los Angeles Thence Rail COFC Beyond</u>
	<u>Evergreen</u>		
Ocean Rate	\$314.96	\$299.94	\$299.96
Currency Surcharge	12.60	3.00	36.00
Wharfage	.90 (0.25%)	.90 (0.27%)	2.60 (0.62%)
Drayage	6.00	6.00	-
Rail Rate	<u>23.60</u>	<u>23.60</u>	<u>81.60</u>
TOTAL	\$356.06	\$333.44	\$420.16

SYNTHETIC RUBBER, DRY IN BAGS
FROM BAYTOWN, TEXAS TO JAPANESE PORTS
RATES EFFECTIVE MARCH 1, 1978

RATES IN CENTS PER 2,000 LBS.

	<u>Via Rail C/L to Los Angeles Thence OCP All-Water Beyond</u>	<u>Via Truck to Houston Thence All-Water (Evergreen)</u>
Inland Rate	\$55.86	\$3.75
Wharfage	2.60 (1.25%)	.90 (1.18%)
Currency Surcharge	10.67	-
Terminal Serv. Chg.	5.44	-
Ocean Rate	<u>133.33</u>	<u>71.43</u>
TOTAL	\$207.90	\$76.08

AIR CONDITIONERS (HOUSEHOLD TYPE) & PARTS
FROM TYLER, TEXAS TO JAPANESE PORTS
RATES EFFECTIVE MARCH 1, 1978

RATES IN CENTS PER 2,000 LBS.

<u>Via Rail C/L to Los Angeles</u> <u>Thence OCP All-Water Beyond</u>		<u>Via COFC to Houston</u> <u>Thence All-Water (Evergreen)</u>	
Inland Rate	\$ 55.86		\$22.40
Wharfage	2.60 (2.06%)		.90 (0.99%)
Currency Surcharge	4.57		-
Terminal Serv. Chg.	5.44		-
Ocean Rate	<u>57.14</u>		<u>68.71</u>
TOTAL	\$125.61		\$92.01

A number of similar examples could be mustered, but it seems clear from these that the premise of wharfage price in the shipper market is not a meaningful factor in the movement of general cargo.

Among port interviews some pressure from commodity organizations was reported on a port-by-port basis. These pressures, involving shipload quantities, closely resemble those applied by the Department of Agriculture on behalf of relief shipments immediately after World War II. They can only be dealt with by ports on a Marine Terminal Conference basis.

The most cogent shipper argument that can be applied on a wharfage basis is that the charge may price the commodity (usually a dry-bulk commodity) out of specific world markets. Such arguments should be:

Closely scrutinized as to documentation.

Examined for more meaningful through cost alternatives, in view of the large volume of movement implied.

Vessel Operator Considerations and the Dockage Charge

As wharfage is evaluated from the standpoint of through cost for quantitative appreciation, dockage may be best given perspective in terms of vessel voyage cost.

Data for a "new-type" C-3 has been obtained from MarAd as a recap of 131 voyages. The voyage cost reports are required of U. S.-flag carriers for determining subsidy accruals under the operating-differential subsidy.* The data is for the year 1975, during which the dockage charge per day for a vessel of this class was \$485 as a national average among major ports. The voyage figures are as follows:

RECAPITULATION OF LINE/SERVICE AVERAGE
DAILY OPERATING COST OF SUBSIDIZED VESSELS
VOYAGES TERMINATED DURING THE PERIOD JAN. 1 TO DEC. 31, 1975

<u>ITEMS</u>	<u>C-3(NEW)</u>
1. Number of voyages	131
2. Number of voyage days	12,493
3. Number of voyage days at sea	6,311
4. % of sea days to total voyage days	51%
5. Total vessel operating revenue per voyage day	\$13,603
6. Total vessel operating expense per voyage day	\$12,943
7. Direct profit (loss) from vessel operations	\$ 659
8. % of direct profit (or loss)	2.82%
9. Vessel operating expenses per voyage day -	
10. Wages - straight time	\$ 1,176
11. overtime	\$ 837
12. other	\$ 1,786
13. Total Wages	\$ 3,799
14. Subsistence	\$ 225

* Schedule 3002A Vessel Operating Statements submitted to MarAd under General Order No. 22.

RECAPITULATION OF LINE/SERVICE AVERAGE DAILY OPERATING COST
 OF SUBSIDIZED VESSELS - (continued)
 VOYAGES TERMINATED DURING THE PERIOD JAN. 1 TO DEC. 31, 1975

<u>ITEMS</u>	<u>C-3(NEW)</u>
15. Stores, supplies and equipment	\$ 238
16. Repairs and other maintenance expenses	\$ 815
17. Fuel	\$ 2,362
18. Insurance - Hull	\$ 206
19. P & I	\$ 686
20. Other	\$ 21
21. Total Insurance	\$ 913
22. Charter Hire	\$ 0
23. Other vessel expense	\$ 54
24. Total Vessel Expenses per Voyage Day	\$ 8,406
25. Port Expenses per Voyage Day (includes Cargo Handling)	\$ 4,195
26. Brokerage expenses per voyage day (includes agency fees and commissions) info not available	0
27. Other Voyage Expenses per Voyage Day	\$ 343
28. Total Vessel Operating Expenses	\$12,943
Estimated Subsidy Accrual per Voyage Day	\$ 3,030

It seems clear from this data that a dockage charge of \$485 per day if applied for the one-half of the voyage day spent in U. S. ports could not exceed 1.75 percent of the daily operating cost of the vessel. Given lesser dockage for non-working or idle status, time at anchorage awaiting berth, etc., this figure is probably substantially less.

By way of contrast, a stevedoring cost of \$8.50 to \$9.50 a

ton, times 1,000 tons per day for 5 hatches, converts to an average of \$9,000 a day for a fully working vessel.

In sum, that portion of port costs going to the public port agency for providing the berth is a minor percentage of total voyage cost, and of port cost. It is doubtful, given good cargo offerings, that dockage is a meaningful factor in the attraction of vessels to a port, or in diversion therefrom.

Containership Operations and Port Costs

Containership operation varies from full leasing of a terminal by an operator or consortium of operators, to operation by the port authority on an open berthing basis. Typical types of arrangements are enumerated in a recent AAPA report* as follows:

Container Terminal Operating Practices

	<u>Present</u>	<u>Planned</u>
Number of Ports	27	33
Number of Terminals	35	24

Berth Use

Leased to or Preferential Use by Steamship Line	12	9
Leased to Terminal Operating Company	7	3
Port Authority Operation first-come-first-served	<u>16</u>	<u>12</u>
	35	24

Cranes Provided by

Port Authority-lease or tariff	16	16
Carrier or Terminal Operator	<u>19</u>	<u>4</u>
	35	20

Container Storage and Assembly Areas

(planned terminals only)

	<u>Transit Areas</u>	<u>Marshalling Areas</u>
Exclusive use (lease)	8	5
Preferential use (fee)	8	7
First come-First served	10	13
Undetermined	1	1

As noted in Chapter IV, there is a wide variety in the assessment of container wharfage on a tariff basis under port authority

* Committee II: Research, 1977.

operation. There is also a number of methods by which dockage is assessed against the vessel. These are also discussed in Chapter IV, as are pricing factors.

As regards outright lease of the container terminal, the pricing of the lease rental does not appear to be significant to port selection from the standpoint of very large operators in contrast to such overriding considerations as:

That percent of the local market (port through-put) that can be captured (as at least 15%, or 10% of the container market).

Vessel deployment into optimum service patterns considering a very high vessel expense.

A large operator of this kind will not call on tariff rates, but seeks continuing arrangements under full amortization type leases. One such operator reports that terminal lease expenses (rentals only) account for only 4 percent of the company's operating expenses on a worldwide basis.

In this kind of an operating pattern it may occasionally be to the advantage of the line to close down a terminal and to truck containers to another nearby port in the interests of vessel deployment, continuing to absorb the lease payments in the process. Thus the weight of the port pricing factor becomes incidental in the port selection process.

Price Adjustments and the Market Place

In practice, against the foregoing background, little difficulty has been encountered in port price adjustments under programs which are objective, orderly and organized. Principal elements of such a program are:

1. Pricing should be collectively approached by the conference method. As practiced in the U. S., this is voluntary and a port may go its own way as it chooses, on given items. The objective should be to elevate the entire structure of coastal rates.

2. Increases should be made at regularly fixed intervals, such as on an annual basis.

3. Increases should be of manageable size. The practice

of delaying an increase until it is necessary to call for a sizable one creates shock situations in the trade and needless difficulty.

4. There should be ample notice of the increase.

5. There should be justification for the increase so that it can be defended on rational grounds as necessary.

6. There should be a mechanism for receiving and handling legitimate grievances.

CHAPTER IV

DOCKAGE AND WHARFAGE

The principal usage type charges applied by United States ports are dockage, generally defined as a charge for the use of a wharf by a vessel; and wharfage, a charge assessed against cargo passing over the wharf. Both charges are solely for use of the wharf and do not include charges for any services. Other usage charges are discussed in Chapter IX.

Dockage Pricing Practices

With few exceptions (as noted below) the pricing of dockage charges relates to the physical size of the vessel using the wharf. The unit of price is the day (or 24 hour period), the total charge for dockage being the number of days occupancy of the berth multiplied by an expression of the vessel's size as a monetary unit.

Vessels are sized for dockage purposes in a variety of ways in the respective coastal areas, but there is uniformity within each area. As to the sizing basis there are three kinds of approaches used, these being:

Gross Registered Tonnage (GRT) of the vessel, a method common to the Gulf, South Atlantic, and Great Lakes port areas.

Net Registered Tonnage (NRT) of the vessel, a method common to the North Atlantic area.

Length Over All (LOA) of the vessel, a method common to the Pacific Coast port area.

There is some variation within each area, and some optional employment of two methods (for example, GRT or LOA, whichever yields the greatest revenue). This and other variations in application are evident in the following discussion.

Advantages and Disadvantages, GRT, NRT, LOA

Port Tariffs in general refer to Lloyd's "Register of Ships" as the authority for the sizing of the vessel, but also contain a clause reserving the right to admeasure any vessel as the basis for the dockage charge.

Gross Registered Tonnage

This measure is the capacity in cubic feet of the spaces within the hull and of the enclosed spaces above the deck available for cargo, stores, passengers, and crew (with certain exceptions) divided by 100. Thus 100 cubic feet capacity is equivalent to 1 gross ton. Gross tonnage is measured according to the law of the national authority with which the ship is registered. In applying GRT as a dockage determinant, typical tariff language may be:

"All vessels...receiving or discharging cargo...: Five cents (5¢) per gross registered ton for each twenty four (24) hour period or fraction thereof."

A variation of GRT dockage assessment is used by nine ports in the Gulf range. This involves reducing the rate per GRT on successive days, as:

"Five cents (5¢) per gross registered ton of vessel....1st day

Five cents (5¢) per gross registered ton of vessel....2nd day

Four cents (4¢) per gross registered ton of vessel for the third day and each day thereafter."

Other combinations of this kind of reduction by cents/day/
GRT are:

5 - 4 - 4 - 3 - 1

5 - 4

5 - 4 - 3 - 2 - 1

4 - 3 - 2 - 1

8 - 5

5 - 5 - 4 - 4

4 - 3

In some instances the schedule repeats itself after a given number of days (21, for example).

The reducing scale probably derives from the regional characteristics of vessel traffic. A Port of Houston study for the years 1963/67 involving more than 8,000 vessels showed an average of 3 days in port per vessel call. As a practical matter returns from these rate patterns are concentrated in the first few days of the descending scale.

Gross Registered Tonnage is, from the point of view of the port, a reliable index of vessel size in terms of space occupied at berth in all three dimensions: length, beam, and draft. Thus it bears a direct relationship to the investment in the port facility as regards length of berth, width of slip, depth of water, breasting forces, square footage of cargo space used, and the like.

With one exception it is an uncomplicated base. The exception is in the form of dual tonnage marks for some vessels. Under amended regulations now in force in some countries there is, in simple terms, a shallow loading of the ship to a "tonnage mark", in which case the upper 'tween-deck spaces are not included in the GRT measurement; or a deeper draft loading to another Load-line Mark, in which case the upper 'tween-deck spaces are included in the GRT tonnage. For administrative purposes some tariffs overcome this ambiguity with language such as:

"Where two gross tonnages are assigned to certain vessels in association with a Tonnage Mark on the vessel's sides, the higher figures shall be applicable in determining gross tonnage for the purpose of assessment of charges under this tariff."

Example: At a dockage rate of .05 per GRT day the following difference applies for the same vessel:

Load line GRT	9,397 x \$.05 = \$469.85/day
---------------	------------------------------

Tonnage Mark GRT	6,525 x \$.05 = \$326.25/day
------------------	------------------------------

Difference in Dockage Rate	\$143.60/day
----------------------------	--------------

In the assessment of dockage charges, GRT of the vessel is a good pricing tool. It yields proportionate return as the size range of vessels increases. It breaks down, however, in the lower quadrant of vessel size, permitting small vessels dockage

rates disproportionately less than the space occupied. For this reason GRT is used in combination with LOA (South Atlantic), on the premise of whichever measurement yields the greater revenue. Such tariff language typically reads:

"Dockage will be computed on the basis of highest gross ton or overall length as published in the current 'Lloyd's Register of Shipping',* whichever produces the greatest revenue.

In a smaller vessel the LOA will always take over as the applicable measurement, as:

Example: At a dockage rate of \$.08/GRT/day or \$1.26/lin. ft./day, the following difference applies for the same small vessel:

LOA	146'2"	x	\$1.26	=	\$184.21/day
GRT	313	x	\$.08	=	\$ 25.04/day
Difference in Dockage Rate					\$159.17/day

It is obvious that GRT does not result in a rational rate in the above instance of the small vessel. Comparisons on ships of larger scale are as follows:

Example: At a dockage rate of \$.08/GRT/day or \$1.26/lin. ft./day, the following applies for a break-bulk cargo vessel:

GRT	9,475	x	\$.08	=	\$758.00/day
LOA	494'8"	x	\$1.26	=	\$623.27/day
Difference in Dockage Rate					\$134.73/day

Example: At a dockage rate of \$.08/GRT/day or \$1.26/lin. ft./day, the following applies for a container ship:

GRT	16,111	x	\$.08	=	\$1,288.38/day
LOA	571'8"	x	\$1.26	=	\$ 720.29/day
Difference in Dockage Rate					\$ 568.09/day

* Many tariffs refer to the Register of Ships as the "Register of Shipping".

Thus, GRT holds up well in those ranges of ship sizes more typical of oceangoing vessel traffic. Ports enjoying more than occasional traffic in smaller commercial vessels and using GRT exclusively as a pricing tool may wish to consider a realistic minimum charge for dockage or employ the length alternative.

Net Registered Tonnage

Net tonnage is derived from gross tonnage by deducting spaces used for the accommodation of the master, officers, crew, navigation, propelling machinery, and fuel. Accordingly, it is a direct expression of the cargo carrying capacity (or earning capacity) of the vessel.

Net tonnage is the oldest form of measurement in terms of port charges, having its origin in the days of the trading vessel when it was customary for the vessel to sail at that time when a full cargo had been accumulated. In the United States its use is confined to six North Atlantic port centers, where it is preserved by long custom, terminal operating practices, and trade influences. One Great Lakes port center uses NRT as well.

An even more direct use of vessel earning capacity is used for dockage pricing at New England ports where dockage is levied in terms of tons of cargo loaded or discharged by the vessel. The aim is to keep vessel traffic to and from nearby New York competitive with truck competition. These are the only exceptions found to the use of vessel dimension as the basis for dockage pricing.

While NRT tracks well with GRT (the ratio is quite constant as vessel size increases from medium to large in dry cargo vessels) it has several disadvantages as a port pricing tool:

Like GRT it breaks down in the smaller vessel range in terms of rational pricing;

It is susceptible to manipulation in shelter-deck type vessels wherein certain removable type bulkheads and hatches may be used to temporarily lower the net tonnage of the vessel. That cargo is sometimes visible in the areas thus opened is an abuse that caused substantial shift away from NRT by U. S. ports during the late 1960s;

An argument may be made that NRT is a less valid expression, in a functional sense, of any of the dockage bases used, considering the purpose of the charge. It is a less direct expression of the size of the vessel.

Tariff language is used to overcome the first two disadvantages. One North Atlantic port using NRT as a base moves to a LOA base for smaller vessels (less than 5,000 NRT). Another specifies:

"Dockage will be assessed against the vessel...on the basis of the highest net registered tonnage of the vessel..." (emphasis supplied)

A specific disadvantage if using either gross or net tonnage as a dockage basis arises in Ore/Bulk/Oil (OBO) carriers. For OBO's the "Register of Ships" will specify two gross and two net tonnages as available, thus complicating the task of application of charges.

Length Over All

Advocates of LOA as a base for dockage pricing recognize it as an exact expression of that which they are providing the vessel (a length of docking space), but their primary advocacy goes to the constancy of LOA as charges are administered. In short, the length of the vessel does not change regardless of loading conditions or compartmentation. It is not arguable.

LOA has been noted previously as common to the Pacific Coast, where it is universally used. Several Gulf ports use LOA, with another having the measure under active consideration. It is used supplementarily in other areas to overcome the shortcomings of other measurement bases, as previously referred to. The shift to LOA from the mid-1960s to date is indeed a trend that sparked a new departure in tariff application by public ports in terms of responsiveness to trends and developments in marine transportation.

A shortcoming of LOA cited by a few practitioners is that variety in vessel conformation may promote inequities. Great Lakes ore carriers (of extreme length in relation to beam and depth) are the most commonly used example. Tanker conformations in the smaller range are also mentioned.

Application of LOA as a Dockage Base. When used exclusively as a base for dockage charges, Length Over All offers the advantage of proportioning the rate in relation to vessel size. In practice vessels are bracketed in groups by length, and a sliding scale is applied to each bracket bringing to bear an increasing charge per foot for larger vessels. (see Fig. 6)

Fig. 6 - Example of sliding scale based on LOA

FULL DOCKAGE

Dockage charges shall be assessed against all vessels in all trades at the full dockage rates provided in this Item, except as otherwise provided in this Tariff.

Full dockage rates shall be as follows:

OVERALL LENGTH OF VESSEL						♦Charge Per 24-Hour Day or Fraction Thereof
IN FEET			+IN METERS			
Over	But Not Over		Over	But Not Over		
0	100		0.00	30.48	\$ 34.00	
100	150		30.48	45.72	48.00	
150	200		45.72	60.96	65.00	
200	300		60.96	91.44	158.00	
300	350		91.44	106.68	222.00	
350	375		106.68	114.30	275.00	
375	400		114.30	121.92	304.00	
400	425		121.92	129.54	337.00	
425	450		129.54	137.16	374.00	
450	475		137.16	144.78	404.00	
475	500		144.78	152.40	443.00	
500	525		152.40	160.02	503.00	
525	550		160.02	167.64	540.00	
550	575		167.64	175.26	587.00	
575	600		175.26	182.88	652.00	
600	625		182.88	190.50	744.00	
625	650		190.50	198.12	865.00	
650	675		198.12	205.74	984.00	
675	700		205.74	213.36	1,110.00	
700	725		213.36	220.98	1,286.00	
725	750		220.98	228.60	1,472.00	
750	775		228.60	236.22	1,667.00	
775	800		236.22	243.84	1,873.00	
800	850		243.84	259.08	2,152.00	
850	900		259.08	274.32	2,449.00	
900	950		274.32	289.56	2,759.00	
950	1,000		289.56	304.80	3,085.00	
1,000	1,050		304.80	320.04	3,433.00	
1,050	1,100		320.04	335.28	3,798.00	
1,100	1,150		335.28	350.52	4,183.00	
1,150	1,200		350.52	365.76	4,583.00	
1,200	1,250		365.76	381.00	5,006.00	
1,250	1,300		381.00	396.24	5,443.00	
1,300	---		396.24		5443 plus	
					445 cents per	
					lineal foot,	
					+ (.3048 meters)	
					or fraction	
					thereof, over	
					1,300 lineal	
					feet + (396.24	
					meters).	

Provided that:

- (a) In the event the resulting charge for over 1,300 feet or 396.24 meters is not an even whole dollar, the charge shall be rounded to the next nearest whole dollar.

Taking three vessels as per previous examples, the following applications would apply:

Small Vessel	146'2" LOA	\$48.00/day	\$0.328/ft.
Break Bulk Vessel	494'8" LOA	\$443.00/day	\$0.886/ft.
Container Ship	571'8" LOA	\$587.00/day	\$1.021/ft.

A curve illustrative of the cost per foot as a function of vessel length appears in Figure 7. Ports interested in conversion to LOA as a dockage base are reminded that ships in the range of 600 to 900 feet spend proportionately little time at berth if they are containerships, although loading and unloading major amounts of cargo. The acceleration of the curve through those sizes should reflect a high-gain effect in view of the impact on terminal space.

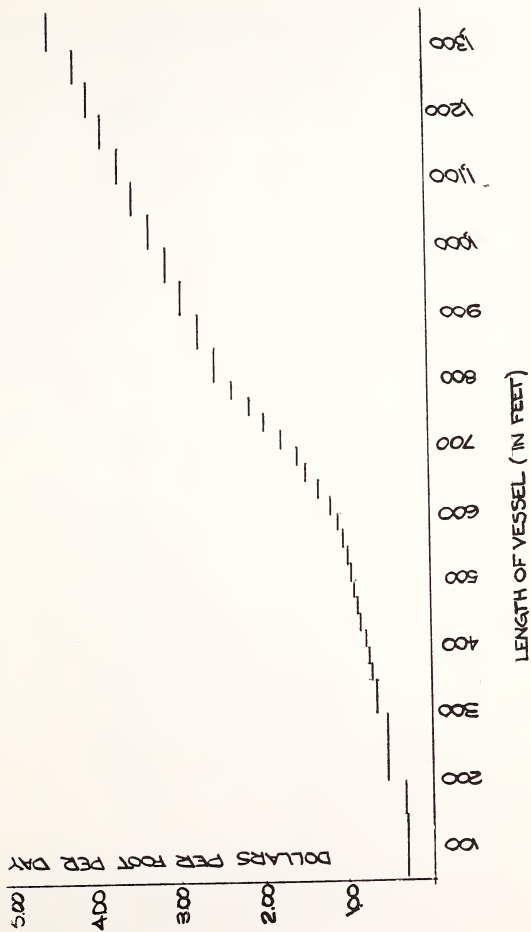
Comparative Levels of Dockage

Because of the different bases used, as discussed above, it is difficult to compare dockage rate levels on a regional or port-by-port approach. This has been attempted in the pages following by using the device of running the characteristics of a break-bulk vessel through the various dockage formulas. A containership in the lesser size range is also run through the formulas of selected major ports.

It is apparent from these runs that dockage levels carry strong regional influences deriving from long custom and the type of trade being served. Competitive factors are noted within regions, principally attempts to use the charge to ameliorate other factors such as the relative accessibility of the docks because of steaming time, or locks or tortuous channels to be negotiated.

Caution should be used in evaluating the runs on any comparative basis. In several regions the charge is administered in context with other charges or rates, or in context with vessels of higher earning capacity.

Fig. 7 - Dockage Charges Graduated by Vessel Length



Comparative Levels of Dockage (1977)

As applied to a C-3 vessel: GRT 9475; NRT 5853; LOA 494'8"

(Where charge per day reduces on successive days, an average per day over 4 days is used as the daily rate)

	<u>Charge per Day</u>	<u>Basis</u>	<u>No. of Ports Using</u>
North Atlantic	\$819	NRT	1
	\$790	NRT	2
	\$758	GRT/LOA	1
	\$644	NRT	1
	\$379	GRT	1
	\$351	NRT	1
	varies	NRT	3
South Atlantic	\$758	GRT/LOA	7
	\$474	GRT/LOA	1
	\$379	GRT	3
Gulf	\$568	GRT	2
	\$568	GRT/LOA	1
	\$545	GRT	1
	\$495	GRT/LOA	1
	\$474	GRT	2
	\$447	LOA	1
	\$426	GRT	3
	\$403	GRT	1

Comparative Levels of Dockage (1977) (continued)

As applied to a C-3 vessel: GRT 9475; NRT 5853; LOA 494'8"

	<u>Charge per day</u>	<u>Basis</u>	<u>No. of Ports Using</u>
Gulf (cont'd)	\$402	LOA	1
	\$379	GRT	1
	\$332	GRT	1
	\$308	GRT	1
	\$237	GRT	1
South Pacific	\$443	LOA	10
Pacific Northwest	\$443	LOA	2
	\$424	LOA	9
Great Lakes	\$474	GRT	1
	\$440	GRT	1
	\$379	GRT	1
	\$284	GRT	2
	\$236	GRT	2
	\$234	NRT	1
	\$189	GRT	2
	\$143	LOA	1
	\$161	NRT	1

Notes: In instances where GRT/LOA appears, the basis yielding the greater revenue is used, as per tariff. In Great Lakes charges there are several instances of different dockage rate within the same port for public or private terminals. Each different rate is reflected above.

Comparative Levels of Dockage (1977) Container Ship

As applied to a containership:	GRT 16111; NRT 9852; LOA 571'8"
	<u>Charge per Day</u>
North Atlantic (Avg. of three ports)	\$1,234
South Atlantic (Avg. of four ports)	\$1,289
Gulf (Avg. of four ports)	\$ 752
South Pacific (Avg. of four ports)	\$ 587
Pacific Northwest (Avg. of three ports)	\$ 570
Great Lakes	N/A

Dockage Minimums

The minimum charge for dockage at United States ports varies widely. It is applied per vessel or per day. The minimum seems to bear no particular relationship to the previously discussed weakness of GRT and NRT in the small vessel ranges, but does become important in containership operations at major ports involving very high usage of the berth over vessel calls measured in hours rather than days. Dockage minimums at various port areas run as follows:

Minimum Charges for Dockage

	<u>Charge</u>	<u>No. of Ports Using</u>
North Atlantic	\$450.00	1
	\$400.00	1
	\$250.00	2
	\$100.00	1
	not published	5

Minimum Charges for Dockage (cont'd)

	Charge	No. of Ports Using
South Atlantic	\$ 50.00	1
	\$ 35.00	1
	\$ 30.00	1
	\$ 29.23	1
	\$ 22.00	1
	\$ 3.00/day or \$.20/ft./day	1
	not published	2
Gulf	\$300.00	1
	\$100.00/day	1
	\$ 50.00/day	2
	\$ 30.00/day	1
	\$ 22.00/day	1
	\$ 20.00	1
	\$ 10.00/day	1
	\$ 5.00	1
	not published	8
South Pacific	24-hour rate	2
	not published	8

Minimum Charges for Dockage (continued)

	<u>Charge</u>	<u>No. of Ports Using</u>
Pacific Northwest	24-hour rate	3
	24-hour rate (12-hr. under 300')	1
	24-hour rate (Lash only)	1
	not published	6
Great Lakes	\$150.00	1
	\$ 50.00	1
	\$100.00/day	1
	\$ 30.00/day	1
	not published	9

Demonstrated in the above pattern is that a majority of ports (more than half) do not publish a minimum charge for use of a berth by the vessel, collecting dockage on that fraction of the 24-hour rate period during which the berth is occupied. Local patterns of vessel traffic and the incidence of fractional-day usage should be reviewed as indicated to determine if a rational minimum charge ought to be established.

Miscellaneous Dockage Charges

Other dockage charges are published by the majority of port entities to include such classifications as:

Lay Status

Idle Status

Inactive Status

Non-self propelled vessels

Passenger vessels

Because the thrust of this report goes to the general cargo ship in working status, these phases or kinds of dockage charges are not explored, with the following exception.

Dockage Charges for LASH/Seabee Traffic

Barge/ship intermodalism represents a technological impact upon port pricing practices, and charges specifically identified as being for this type of barge or lighter appear in many tariffs. Because the barges are

LASH 61'6" long

Seabee 97'6" long

it is presumed that unless specifically noted as having a charge, they would fall under dockage generally applied to barges and non-self propelled vessels under the appropriate lineal charge if served.

Methods of Pricing for LASH/Seabee Dockage

The following regional practices apply to LASH/Seabee barges, and ships where specified rates apply:

	<u>LASH Barge Dockage</u>	<u>No. of Ports Using</u>
North Atlantic	\$39.68/day	1
	\$20.00/day	1
	\$20.00/day working	2
	\$10.00/day idle	
	\$11.00/barge LUL cargo	1
	\$16.50/barge when LUL on/off vessel	
	\$10.00/day	1
	General barge rates apply (No LASH rate published)	4
South Atlantic	\$30.00/day	1
	\$23.00/day	1

Methods of Pricing for LASH/Seabee Dockage (continued)

	<u>LASH Barge Dockage</u>	<u>No. of Ports Using</u>
South Atlantic (cont'd)	\$10.00/1st day; \$8.80/day 2 & 3 day; \$6.60/day, 4 thru 8 days. Sched. re- peats <u>Fleeting Area:</u> \$3.68/day if LUL in port; \$5.25/day if LUL other port. <u>LASH vessel LUL barges:</u> 4¢ GRT/day; 64¢ lineal ft., whichever greater revenue.	1
	N/C for barge dockage if LUL on/off LASH vessel in port. \$25.00/day if elsewhere. <u>Fleeting Area:</u> \$4.00/day <u>LASH vessel LUL barges:</u> 4¢ GRT/day	1
	\$1.00/day when transporting vessel pays dockage. <u>LASH vessel LUL barges:</u> 2¢ GRT/day	1
	General Barge rates apply (No LASH rate published)	3
Gulf	General barge rates apply (No LASH rate published)	13
	General barge rates apply <u>Fleeting area:</u> Supplemental harbor fee of 48¢ ton cargo handled. (Not applicable when vessel docked)	1
	General barge rates apply <u>LASH vessel LUL barges:</u> 50% regu- lar dockage	1

Methods of Pricing for LASH/Seabee Dockage (continued)

	<u>LASH Barge Dockage</u>	<u>No. of Ports Using</u>
Gulf (cont'd)	General barge rates apply in port. Transit fee for barges LUL cargo elsewhere: \$5/barge under 75' (LASH) \$7.50/barge 75-100' (Seabee)	1
	General barge rates apply	1
	<u>Fleeting area:</u> \$4.00/day	
	<u>LASH vessel LUL barges:</u> 3¢/GRT/each voyage	
South Pacific	\$28.66/day LUL \$ 6.61/7 days standby	1
	General barge rates apply \$ 4.20/7 days standby	2
	General barge rates apply (No LASH rate published)	7
Pacific Northwest	\$29.90/day	1
	\$29.90/day LUL \$ 6.90/7 days standby	1
	\$28.66/day LUL \$ 6.61/7 days standby	3
	\$ 5.29/day LUL \$ 5.29/day standby	1
	General barge rates apply \$ 6.61/7 days standby	1
	General barge rates apply (No LASH rates published)	4
Great Lakes	No traffic this item	

There seems to be little uniformity in the treatment of LASH/Seabee dockage. Some advantage is given to barges when loading or discharging if they in turn are loaded or discharged to or from the mother ship in the port.

Wharfage Pricing Practices

To repeat, wharfage is a charge assessed against cargo moving across a wharf. The charge is solely for the use of the wharf and does not include charges for any services. The common practice is to bill the charge to the vessel, or its owners or agents, who in turn assess the cargo owner or shipper.

The wharfage charge is described in tariff language as:

"A charge assessed against the merchandise, calculated in accordance with the charges named in this tariff for the passage of that merchandise onto, over, through, or under wharves or wharf premises, or between vessels or overside vessels (to or from barge, lighter, or water) when berthed at wharves or wharf premises, or when moored adjacent to a wharf or wharf premise. Wharfage is solely the charge for use of wharves or wharf premises and does not include charges for any service or facility."

The charge is assessed in accordance with a schedule of rates for various commodities. In some coastal areas there is further differentiation as to whether cargo is export or import, or intercoastal or coastwise. For purposes of this report the cargo classification "N. O. S." is being used, it being for cargo items "not otherwise specified" (in the commodity schedule of wharfage rates). The N. O. S. rate is what is commonly used in the trade in reference to the wharfage rate of a given port. It shows no differences as between export, import, coastwise or intercoastal status of cargo in any of the port tariffs in which such breakdowns appear.

The rate for wharfage is given in cents per ton of 2,000 lbs. in some port regions, or in others it may be given in cents per ton of 2,000 lbs. or 40 cubic feet, whichever yields the greatest revenue, "according to the vessel's manifest", or "as freighted". This method adds a space-occupied factor for cargoes of light density plus obvious rebilling advantages. A few ports carry density rates bracketed at 80 or 120 cubic feet.

A number of individual ports give the wharfage rate in terms of cents per 100 lbs. (cwt). This is probably a carry-over from railroad practice and former absorptions of this rate. Several ports once using this method are noted to have converted to the short ton rate in recent years.

Comparative Levels of Wharfage

The basic wharfage rate applied by ports varies widely by region, showing a definite relationship as between the level of the rate and whether it is a collectively made rate for the region. There are competitive shadings within regions. While no search of specific commodity wharfage rates was made, there are known to be "sacred cows" on a commodity basis as this rate is considered on a marine terminal conference level.

Comparative Levels of Wharfage (1977) N. O. S. Rates

	<u>Charge per ton</u>	<u>Basis</u>	<u>No. of Ports Using</u>
North Atlantic	\$1.10	Net Ton	1
	\$1.00	Net Ton	1
	\$1.00	Net Ton	1
	\$.70	Meas. Ton (Cargo in excess of 80 cu. ft./ton)	
	\$.95	Net Ton	1
	\$.87	Meas. Ton (Cargo 40 to 120 cu. ft.)	
	\$.71	Meas. Ton (Cargo in excess of 120 cu. ft./ton)	
	\$.85	Wt./Meas. Ton Whichever yields greater rev..	1
	\$.80	Net Ton	2
	\$.60	Wt./Meas. Ton Whichever yields greater rev.	1
	\$.25 (ton)	.0125 cwt	1

Comparative Levels of Wharfage (1977) N. O. S. Rates (Cont'd)

	<u>Charge per ton</u>	<u>Basis</u>	<u>No. of Ports Using</u>
South Atlantic	\$1.10	Net Ton	7
	\$.70	Net Ton	1
	\$.60	Net Ton	1
	\$.50	Net Ton	2
Gulf	\$.90	Net Ton	1
	\$.75	Net Ton	2
	\$.70	Net Ton	4
	\$.70 (ton)	.035 cwt	2
	\$.66	Net Ton	1
	\$.60	Net Ton	1
	\$.60 (ton)	.03 cwt	2
	\$.55	Net Ton	2
	\$.55 (ton)	.0275 cwt	1
	\$.45 (ton)	.0225 cwt	1
South Pacific	\$2.60	Wt./Meas. Ton Whichever yields greater rev.	8
	\$2.05	Wt./Meas. Ton Whichever yields greater rev.	1
	\$1.90	Wt./Meas. Ton Whichever yields greater rev.	1

Comparative Levels of Wharfage (1977) N. O. S. Rates (Cont'd)

	<u>Charge per ton</u>	<u>Basis</u>	<u>No. of Ports Using</u>
Pacific Northwest	\$2.60	Wt./Meas. Ton Whichever yields greater rev.	8
	\$2.60	Net Ton	3
Great Lakes	\$1.10	Net Ton	1
	\$.75	Net Ton	1
	\$.50	Gr. Ton (2,240 lbs.)	1
	\$.40	Net Ton	1
	\$.40	Gr. Ton (2,240 lbs.)	1
	\$.35	Net Ton	2
	\$.30	Wt./Meas. Ton "as freighted"	1
	\$.20	Net Ton	2
	\$.20	Wt./Meas. Ton "as freighted"	1
	\$.15	Net Ton	1

Notes: At some Great Lakes ports some portion of wharfage is included in stevedoring rates by private terminal operators.

New York was not included in the North Atlantic wharfage levels. The Port Authority tariff shows a rate of \$.35/ton. Many operators include wharfage with stevedoring rates.

Container Wharfage - Comparative Levels

Wharfage charges on containers show wide variety in rate level and in the basis of application, whether by the box or by the ton; and if the latter, whether the rate is for contents only or includes the weight of the box. Wharfage on empties is also handled in a number of different ways.

Some major containership operators do not get involved in tariff rates, preferring a flat annual lease type arrangement on an amortization basis.* Therefore the tariff rate applications shown apply only to that portion of the total container tonnage served by ports handling this traffic on open or assignment basis, and/or handling combination ships, RO/RO traffic, and the like. The extent of that portion is not known.

Crane rental, storage, and demurrage rates together with receiving and delivery rates and other operational charges are balanced with wharfage rates for containers, a factor which should also be considered in reviewing container wharfage differences. Crane rental rates are considered to be an important competitive factor.

There is a definite interest in charging "by the box" among port executives interviewed in connection with this study. It is predictable that container wharfage is moving in that direction in areas where this does not already apply.

Container Wharfage - Comparative Levels (1977)

	<u>Loaded</u>		<u>Basis</u>	<u>Empty</u>		<u>No. of Ports Using</u>
	<u>20'</u>	<u>40'</u>		<u>20'</u>	<u>40'</u>	
North Atlantic	\$11.00	\$14.00	Box	\$7.00	\$7.00	1
	\$ 6.00	\$12.00	Box	\$6.00	\$12.00	1
	\$ 5.00	\$10.00	Box	\$5.00	\$10.00	1
	\$ 1.10	\$ 1.10	Ton (Con- tents only)	Not published		1

* Wharfage and dockage tariff rates are applied in long term annual rental type leases of the Pacific Coast ports, subject to minimums and maximums agreed to in the lease.

Container Wharfage - Comparative Levels (1977)

	<u>Loaded</u>		<u>Basis</u>	<u>Empty</u>		No. of Ports Using
	<u>20'</u>	<u>40'</u>		<u>20'</u>	<u>40'</u>	
North Atlantic (cont'd)	\$ 1.05	\$ 1.05	Ton (Box & contents)	\$1.05 ton	\$1.05 ton	1
	\$ 1.00	\$ 1.00	Ton (Box & contents)	\$1.00 ton	\$1.00 ton	2
	\$ 1.00	\$ 1.00	Ton (Con- tents only)	\$1.00 ton	\$1.00 ton	1
	Not published			Not published		2
South Atlantic	\$.85	\$.85	Ton (Con- tents only)	n/c	n/c	7
	\$.70	\$.70	Ton (Box & contents)	\$.70	\$.70	1
	\$.60	\$.60	Ton (Box & contents)	\$.60	\$.60	1
	\$.50	\$.50	Ton (Box & contents)	\$.75	\$1.25	1
Gulf	\$.90	\$.90	Ton (Con- tents only)	\$.90 ton	\$.90 ton	1
	Commod- ity rates		Ton (Con- tents only)	\$.75 ton	\$.75 ton	1
	\$.75	\$.75	Ton (Con- tents only)	n/c	n/c	1
	\$.70	\$.70	Ton (Con- tents only)	\$1.00 box	\$1.00 box	1
	\$.60	\$.60	Ton (Con- tents only)	\$1.10 ton	\$2.20 ton	1

Container Wharfage - Comparative Levels (1977)

	<u>Loaded</u>		<u>Basis</u>	<u>Empty</u>		No. of Ports Using
	<u>20'</u>	<u>40'</u>		<u>20'</u>	<u>40'</u>	
Gulf (cont'd)	\$.60	\$.60	Ton (Con- tents only)	\$.60 ton	\$.60 ton	1
	\$.55	\$.55	Ton (Con- tents only)	\$.55 ton	\$.55 ton	1
	\$.55	\$.55	Ton (Con- tents only)	n/c	n/c	1
	\$.55	\$.55	Ton (Con- tents only)	n/c	n/c	1
	When handled with ship's gear. Otherwise wharf- age included with LUL rate.					
	Commod- ity rates		Ton (Box & contents)	Not published		1
	Container wharfage not published					5
South Pacific	\$ 2.60	\$ 2.60	Ton (Wt. or Meas.)	\$4.14* Box	\$8.28* Box	4
	\$ 2.60	\$ 2.60	Ton Wt. or Meas.)	\$1.04 Ton (Wt. or Meas.)	\$1.04	1
	\$ 2.60	\$ 2.60	Ton Wt. or Meas.)	\$4.00* Box	\$8.00* Box	2
	\$ 2.60	\$ 2.60	Ton (Wt. or Meas.)	\$4.14 Box	\$8.38 Box	1
	\$41.40	\$82.80	Box**	\$4.14 Box	\$8.28 Box	1
	\$17.25	\$28.75	Box	n/c	n/c	1

*At some ports does not apply on SS/owned empties shipped free of freight charges.

**Applies only when containers are loaded through-
out movement across terminal.

Container Wharfage - Comparative Levels (1977)

	<u>Loaded</u>		<u>Basis</u>	<u>Empty</u>		No. of Ports Using
	<u>20'</u>	<u>40'</u>		<u>20'</u>	<u>40'</u>	
Pacific Northwest	NOS or Commodity rates apply		Ton	\$5.15	\$10.35	1
	Commodity rates		Ton	\$3.39 box	\$6.75 box	1
	NOS rates		Ton (Con- tents only)	\$3.22 ton	\$3.22 ton	1
	NOS rates		Ton (Con- tents only)	\$2.60 ton	\$2.60 ton	2
	Container wharfage not published					6
Great Lakes	Container wharfage not published					14

Notes: That no specific container wharfage rates are published may be taken to mean that the traffic is moving under application of NOS or commodity rates.

Major Pacific Coast ports apply a box rate by length when weight and measure of cargo is not available.

As with LASH/Seabee dockage, there is little uniformity in the application of container wharfage charges even in some of those coastal areas in which there is well organized Section 15 rate consideration accompanied by container traffic in good volume.

Rate Levels for Dockage and Wharfage

The central finding of the Freas Study of 1948 was that wharfing operation by California ports was a losing proposition. A number of other types of activity, principally back-land leasing, were producing sufficient revenue to offset wharfing losses to one degree or another. Although the California situation was the only one costed out, the condition was known

to apply nationally under the severely depressed rate structure applying to usage of marine terminal facilities by the trade.

After a 30-year interval that situation remains substantially unchanged. While the development of capital intensive marine terminal operations has developed a newer market for long term leasing of port facilities, these and other lease revenues have continued to cross-subsidize depressed tariff rates which have not kept pace with costs. That the primary segment of cost involved relates to the older break-bulk terminals, which are increasingly expensive to maintain, adds a dimension to the problem.

Prior to 1968 the level of dockage and wharfage rates at United States ports remained relatively static. During the two decades between 1948 and 1968 occasional attempts to change a long dormant rate on a unilateral or regional basis are remembered as highly traumatic events.

Impacts discussed in Chapter I have resulted in a rapidly changing picture during the period 1968/77, as evidenced by Figures 8 and 9. These exhibits are the result of a review of major port tariffs for the period, and they show an increasing rate of upward adjustment.*

However, comparison with recognized price indices reveals that on balance the tariff rates have simply kept pace with the inflation rate, meaning that there has been no net gain to speak of in the historically negative revenue/cost relationship applying to marine terminal usage by ships and by cargoes.

Recent applications of the CAPA cost formula and the NWMTA cost formula continue to show substantial shortfalls. On a national basis, most port managers questioned as to appropriate rate levels on a remunerative basis say a doubling of current rates would achieve this objective. A lesser group cites a 50 percent figure. At the fringes, needs of tripling or of 25 percent are mentioned. The age and condition of the facilities and the amount of traffic they carry are the determinants.

* The lesser ports of the various coastal ranges show fewer and smaller increases in rates according to tests made on historic performance. Exceptions are in those areas in which all participate on a conference basis.

Fig. 8 - DOCKAGE CHARGES

(Vessel of 9,475 GRT; 494'8" length; 5,853 NRT)

<u>Coastal Area</u> ²	<u>Avg. Chg. per day</u>		<u>%Increase</u>	<u>No. of Rate Increases</u> ¹	
	<u>1968</u>	<u>1977</u>		<u>1968/72</u>	<u>1973/77</u>
NORTH ATLANT. (Bost, Phila, Balt, Norf)	\$374	\$648	173%	8	11
SOUTH ATLANT. (Wilm, Char, Savan, Jax)	\$386	\$758	196%	7	24
GULF (Tampa, Mob, N. Orl, Houst, Galv)	\$230	\$426	185%	7	7
PACIFIC (Los Ang, Long Bea, San Fran, Oak, Portl, Sea)	\$136	\$440	324%	22	24
AVERAGES (National)	\$282	\$568	201%	44 (40%)	66 (60%)
INDUSTRIAL GOODS PRICE INDEX (July, 1977)			196%		
CONSTRUCTION COST INDEX (1977) ("Engineering News Record" 20 cities)			224%		

Notes:

1. Total of individual increases among the ports mentioned.
2. Great Lakes not included. See Chapter VII.

Fig. 9 - WHARFAGE CHARGES (NOS)

(Per ton of 2,000 lbs.)

<u>Coastal Area</u> ²	<u>Avg. Chg. per ton</u>		<u>% Increase</u> (1968=100)	<u>No. of Rate Increases</u> ¹	
	<u>1968</u>	<u>1977</u>		<u>1968/72</u>	<u>1973/77</u>
NORTH ATLANT. (Bost, Phila, Balt, Norf)	\$.50	\$.99	198%	7	12
SOUTH ATLANT. (Wilm, Char, Savan, Jax.)	\$.45	\$ 1.10	244%	10	18
GULF (Tampa, Mob, N. Orl, Houst, Galv)	\$.36	\$.70	194%	5	13
PACIFIC (Los Ang, Long Bea, San Fran, Oak, Portl, Sea)	\$.97	\$ 2.60	268%	8	23
AVERAGES (National	\$.57	\$ 1.35	236%	30 (31%)	66 (69%)
INDUSTRIAL GOODS PRICE INDEX (July, 1977)			196%		
CONSTRUCTION COST INDEX (1977) ("Engineering News Record" 20 Cities)			224%		

Notes:

1. Total of individual increases among the ports mentioned.
2. Great Lakes not included. See Chapter VII.

CHAPTER V

COLLECTIVE APPROACHES TO PORT PRICING

The ability of groups of ports collectively to discuss their rates and charges with immunity from violation of anti-trust statutes stems from Section 15 of the Shipping Act of 1916 which provides, in part: (emphasis supplied)

"That every common carrier by water, or other person subject to this Act, shall file immediately with the Commission a true copy...of every agreement with another such carrier or other person subject to this Act...fixing or regulating transportation rates or fares; giving or receiving special rates...; controlling, regulating, preventing, or destroying competition;...or in any manner providing for an exclusive...cooperative working arrangement..."

Section 1 of the same Act provides, in part, that:

"The term 'other person subject to this act' means any person not included in the term 'common carrier by water', carrying on the business of...furnishing wharfage, dock, warehouse, or other terminal activities in connection with a common carrier by water."

Thus the Marine Terminal Conference, commonly referred to as a "Section 15 Agreement", is a close relative of the Steamship Conference. Eugene P. Stakem, Chief, Office of Domestic Commerce, Federal Maritime Commission, has provided the following definition:

"Marine Terminal Conference - a group of two or more ports and/or terminal operators who have associated themselves under a section 15 agreement approved by the Federal Maritime Commission (FMC) which authorizes the parties to discuss and agree upon marine terminal rates, rules, regulations and practices. The agreement generally provides for formation of committees, scheduling of meetings, voting requirements and other procedures for the conduct of business

within the association. The association or its individual members must file tariffs with the FMC setting forth marine terminal rates, rules and regulations applicable at their facilities.* Such associations are also required to file minutes of meetings and establish procedures for hearing shippers' requests and complaints."

The Federal Maritime Commission cannot prescribe rate levels. Marine terminal conference members may properly be said to be engaged in a form of self-regulation in their collective approach to rate making. The Commission's regulatory role is that of requiring corrective action in instances found to constitute violations of the Shipping Act; that is, found to be unlawful, unfair, discriminatory, or prejudicial.

The large benefit of this form of self-regulation is of course the stability of rates over a port region, protecting individual members of the conference from user pressures and the playing of one port against another. Other advantages apply such as:

Uniform definitions for terminal services.

Establishment of long-term objectives of benefit to ports and users of ports.

Exchange of views on practices and problems.

Discussion of liability and legal matters.

Discussion of labor matters.

There are some 22 active marine terminal conferences in the coastal areas of the United States. The specialized ones, such as lumber or grain terminal conferences, are included in that number. Of interest to this report are the intra-port conferences, identified as follows:

California Association of Port Authorities
Northwest Marine Terminal Conference
Pacific Coast Terminal Conference
Mid-Gulf Seaport Marine Terminal Conference

* The FMC requires the filing of terminal tariffs, under General Order No. 15. This is not necessarily a requirement peculiar to a conference.

South Atlantic Port Association
 South Atlantic and Norfolk Marine Terminal Association
 South Florida Conference

These intra-port marine terminal conferences differ somewhat in the inclusiveness of their memberships; in the range of rates and charges discussed; and in the deviations from uniformity occasioned by the special circumstances of individual members. Several of them use a uniform cost formula as a part of their ratemaking process, which is of foremost interest to port pricing concepts. Others proceed on the basis of the cost data known to the participating members on a subjective basis.

Uniform Cost Formulas
and Marine Terminal Rates

The concept of the marine terminal conference had its beginnings in what amounted to a series of price wars on the Pacific Coast occasioned by the prolonged waterfront strikes of the 1930s and the resultant loss of the intercoastal trades which had been the major source of port tonnage since the opening of the Panama Canal. Much of the cargo went to competing transcontinental railroads and in the depression years just prior to World War II West Coast ports vied with one another by using give-away rates to attract small lots of cargo. The situation continued in the early post-war era, the intercoastal fleet having been decimated and the trade being no longer attractive to capital. The Pacific Basin trading area had yet to develop into its present prominence. Against this background the California Association of Port Authorities was formed on April 12, 1940 "to promote fair and honorable business practices among those engaged in the marine terminal industry...and to establish and maintain just and reasonable, and, as far as practical, uniform terminal rates...".

Early in its history the Association began to function under a Section 15 Agreement approved by the then United States Maritime Commission. The Commission engaged an independent consultant, Howard G. Freas, to make a study of the CAPA member ports as regards a proper basis for segregating and allocating terminal costs assignable to the vessel and to the cargo, including carrying charges, for ratemaking purposes. The study resulted in the "Freas Formula" and on August 24, 1948, the Commission approved the formula as a proper base for segregating terminal costs in California and also the concept that public ports are entitled to a fair return on investment.

The ports of the Pacific Northwest came under the formula on June 8, 1956 when in Docket No. 744 it was applied to members of the Northwest Marine Terminal Association with some modification.

It is of interest to note that the Examiner in Docket 744 recommended to the Commission that it institute a nationwide rulemaking proceeding to make as uniform as possible the allocation of terminal charges between ship and cargo. This recommendation was not accepted by the Commission.

As to rate of return the Commission did not adopt the Freas recommendation of 7 percent, stating only that public ports were entitled to a fair rate of return. Since that statement, however, the Commission has approved rate levels in a number of terminal lease or preferential assignment cases involving returns of 7 and 8 percent based on current values of land and undepreciated original cost of improvements.*

California Association of Port Authorities Approach

The 11 member ports of the California Association of Port Authorities, functioning as a Marine Terminal Conference, use a cost segregation system stemming from the Freas Formula as reviewed and modernized in the late 1960s, the revised approach being known as the CAPA Cost Formula. Only a few of the 11 members are described as "operating" ports, performing such services as rail car loading and unloading, motor truck loading and unloading, and other labor oriented charges. While a traffic committee among the operating ports considers tariff rates and charges for these accessorial services, the CAPA Formula itself centers upon those rates and charges common to all 11 members, these being:

Dockage

Wharfage

Wharf Storage

Wharf Demurrage

The "non-operating" CAPA ports do not handle cargo but provide facilities, on an assignment basis, for private entities that do so. Hence the above charges of common interest are noted

* Several port administrators say rates of 13 to 14 percent are now realistic.

to be charges for usage only, not involving services. Typically the CAPA ports also lease facilities for the exclusive use of the lessee on a long-term basis. These leased facilities are aside from, and are not a part of, the CAPA ratemaking procedures. Terminal leasing practices are discussed in Chapter VIII of this report.

The manner in which costs are allocated as an aid to Section 15 ratemaking considerations in California is as follows:

<u>Tariff Charge</u>	<u>Assessed Against</u>	<u>What Tariff Charge is Expected to Recover</u>
Dockage	Vessel	Waterway cost (considered to be a water area 100' wide extending the length of the berthing area). 50 percent of apron wharf cost 40 percent of aisle space cost, (aisle space is considered to represent 30 percent of total cargo space)
Wharfage	Cargo	50 percent of apron wharf cost. Costs allocable to terminal transit shed and open areas for the accommodation of cargo, less space rentals. 60 percent of aisle space cost. <u>Note:</u> Deductions for Wharf Storage and Wharf Demurrage apply
Wharf Storage*	Cargo	No provision for cost allocation. Storage revenues are deducted from total cargo area costs, after which the remainder of cargo area cost is recoverable from wharfage.
Wharf Demurrage*	Cargo	No provision for cost allocation. Demurrage revenues are deducted from total cargo area costs, after which the remainder of cargo area cost is recoverable from wharfage.

* CAPA considers that such charges are in the nature of a penalty designed mainly to free cargo areas for intransit cargo. It has been agreed that it is impractical to develop cost for space used, and that cost is not of primary significance in establishing these rates.

The costs named above are determined from a highly structured procedure in which the following steps apply:

1. Desired return on land areas is arrived at by developing a multiplier which is a value per square foot based on a weighted average of land values among the various member ports. This value per square foot is applied to total port land, to obtain a total land value. Then a desired rate of return on land is established (the same rate of return as for structures. See below) and applied to the total value. The resulting dollar figure is divided by the square footage of total land, resulting in a rate of return per square foot. The square footage of land areas underlying apron, transit shed, open transit, tracks, roadway, and other areas (and waterway areas) is then multiplied by the rate of return per square foot. These totals are distributed between vessel and cargo (depending on the nature of the facility and the cost recovery allocations previously described) as the land return portion of plant cost.
2. Desired return on structures is based on the municipal bond index (first publication after January 1st, Bond Buyer's Index of 20 Municipal Bonds), plus $2\frac{1}{2}$ percent. Thus if the index is 5.50, plus 2.5 would equal an 8 percent rate of return.

The rate of return is applied against structures valued at reproduction cost (less accumulated depreciation) and together with depreciation, insurance, maintenance, and other structural costs, is distributed between vessel and cargo, depending on the function of the structure, as a second segment of plant cost.

3. Miscellaneous equipment and services (for construction, fire protection, etc.) are similarly capitalized and distributed as between vessel and cargo, as a third segment of plant cost.
4. In the above manner, total plant cost is apportioned to vessel or cargo for various types of port facilities including general cargo facilities (break-bulk, container, or combination); dry bulk; liquid bulk; and together with space rentals, crane rentals and special facilities, these total plant costs are distributed as to dockage or wharfage.

5. Administrative and Supervisory Expenses are also distributed to dockage and wharfage at this step.
6. A Statement of Revenue/Expense and Revenue Deficiency for dockage and wharfage is reported to CAPA, where, combined with the reports of other members, it will serve as a basis for annual rate review discussion. (Fig. 10)

Annual Review Procedures. In ratemaking procedure the CAPA formula results are described as only one of the factors considered. (Several member ports do not or cannot supply formula data in the prescribed manner but participate in the decision-making). The deficiency reports, therefore, guide but do not dictate rates. Other pricing factors are taken into account including volume of cargo, value of cargo, nature of cargo, market-place sensitivities, and competitive factors.

CAPA Experience in Rate Making. As the result of a decision adopted in 1970, CAPA members began to have tariff charges considered on a yearly basis, based on an annual review of costs. Thus almost 12 years elapsed during which the formula was applied at irregular intervals. For example, despite higher costs there were no wharfage rate increases between April 1959 and April 1967. The purpose of the annual review is to permit gradual increases rather than sudden large increases which typically carry a shock impact.

Although a number of the increases have resulted in complaints from either steamship or shipper groups, the Association has remained in a position of well-documented justification for its notification of increase, and has in general declined to suspend or reduce rates on complaints to date.

A notable conference action took place in 1969 when the California ports adopted a scale of rates based on the length of the vessel for purposes of assessing the dockage charge. The ability to change tonnage measurement in shelter deck type vessels by opening certain cargo spaces was causing a loss of revenue, and it was determined that vessel length was the most stable basis for the rate.

The Association has recorded important gains in dockage and wharfage rate levels over the past 10 years but substantial deficits continue in formula applications, particularly in break-bulk terminal cost applications, as revenues are compared with allocated cost plus rate of return. (Fig. 10)

Fig. 10 - Sample Application of CAPA Formula
(by a Member Port)*

STATEMENT OF REVENUE AND EXPENSE AND REVENUE DEFICIENCY

<u>9.8% Return on Investment</u>	<u>Revenue</u>	<u>Expense</u>	<u>Gain or Deficiency</u>	<u>Percent of Revenue</u>
<u>Dockage</u>	<u>\$ 233,659</u>	<u>\$2,536,170</u>	<u>\$ (2,302,511)</u>	<u>(985.42)</u>
<u>General Cargo Operations</u>				
Wharfage	\$1,843,926	\$4,176,748	\$ (2,332,822)	(126.51)
Rentals - Office	26,756	29,647	(2,891)	(10.81)
Totals	<u>\$1,870,682</u>	<u>\$4,206,395</u>	<u>\$ (2,335,713)</u>	<u>(124.86)</u>
Grand Totals	<u><u>\$2,104,341</u></u>	<u><u>\$6,742,565</u></u>	<u><u>\$ (4,638,224)</u></u>	<u><u>(220.41)</u></u>

* For methodology only. Levels are those of an unspecified bygone year, and are not currently indicative.

Northwest Marine Terminal Association Approach

The 9 member ports of Pacific Northwest Section 15 Agreement, functioning as the Northwest Marine Terminal Association, Inc., use a cost segregation system stemming from the Freas Formula. However, it differs from the CAPA system partly because of the large range of tariff charges offered by the operating ports of the Northwest. All of the 9 members hold themselves out to perform service, including the staffing and operation of the marine terminals, and the giving and taking of receipts for cargo at the end of ships' tackle and at the landward side of the terminal.

While the CAPA ports limit their collective approach to 4 items, the NWMTA approach encompasses 7:

<u>CAPA</u>	<u>NWMTA</u>
Dockage	Dockage
Wharfage	Wharfage
Wharf Storage	Service & Facilities Charge*
Demurrage	Storage
	Load and Unload
	Handling**
	Other Marine Service

The manner in which costs are allocated as an aid to Section 15 ratemaking considerations in the Northwest is as follows:

<u>Tariff Charge</u>	<u>Assessed Against</u>	<u>What Tariff Charge is Expected to Recover</u>
Dockage	Vessel	10 percent of terminal cost (considered to be the "waterside" 10 percent).
Wharfage	Cargo	45 percent of terminal cost.
Serv. & Facili.	Vessel	45 percent of terminal cost.
Storage	Cargo	Costs allocable to specific storage areas.
Load and Unload	Cargo	Direct costs (labor and equipment).
Handling	Vessel	Direct costs (labor and equipment).
Other Marine Service	Person Ordering	Direct costs (labor and equipment).

* Service and Facilities Charge is assessed against the vessel for use of working areas and for services in connection with receipt, delivery, checking, care, custody, and control of cargo. It does not include any cargo handling, loading, or unloading operations.

** In the Pacific Northwest the term "handling" means the movement of cargo between the end of ships' tackle and the point of rest in the shed.

"Terminal Cost" is derived from land values (at current appraised worth, with a "cost" of $8\frac{1}{2}$ percent assessed to cover return of that investment); improvement values (at $8\frac{1}{2}$ percent return on original cost, depreciated, plus major maintenance add-ons @ $8\frac{1}{2}$ percent return); depreciation; light equipment costs; maintenance; and terminal and administrative overheads. Appropriate allocations of operational and administrative overheads are also made for the other charges named above (Load and Unload; Handling; Other Marine Service).

One of the 9 members of NWMTA uses a somewhat different formula. It identifies those facility costs ascribed to dockage rates at all facilities to determine a cost base for dockage rates; then identifies facility costs ascribed to storage rates at all facilities. Then the total facilities costs are reduced by the amount of the facility costs for dockage and storage. The resulting balance of costs is distributed 50 percent to wharfage and 50 percent to service/facility rates on an equal share basis. These rates: wharfage, storage, service and facilities, and dockage, are considered to be "facility type rates".

In this individual approach there are also 4 "labor type rates" computed, these being N.O.S. service rates; service rates on specific commodities; rates for performing individual or specific service; and miscellaneous or "man-hour" rates. The usual direct and indirect costs and overheads are applied.

Annual Review Procedures. Each of the 9 member ports reports annually to the Northwest Marine Terminal Association its net (or deficit) under each of the above tariff charges, applying the formula and displaying revenues and costs. (See Fig. 11). Some members do not report on some charge items but a majority do. All members report on Dockage, Wharfage, and Service and Facility performance.

The number of ports having deficits under each item is noted, along with the amount of the deficit, as is the combined total of deficits under each charge for the entire region. This data serves as the basis for rate adjustment discussions, along with other factors including volume and value of cargo, marketplace sensitivities, etc. There is some grouping of ports by type in these considerations.

In addition to direct operations, ports of the Pacific Northwest have complements of leased facilities. These are not involved in Section 15 type ratemaking.

Fig. 11 - Sample Application of NWMTA Formula
(by a member port)*

Summary - Cost Distribution of Revenues and Expenses

	<u>Dockage</u>	<u>Wharfage</u>	<u>Service and Facilities</u>	<u>Storage</u>	<u>Load and Unload</u>	<u>Handling</u>	<u>Other Marine Services</u>
Revenue	\$ 700,701	\$2,423,445	\$1,691,540	\$1,683,712	\$309,304	\$2,085,012	\$2,747,101
Costs:							
Schedule I	692,431	3,115,943	3,115,943	2,128,781			
Schedule II			1,031,104	997,240	295,889	1,516,695	2,581,788
Operational Overhead	185,608	641,920	447,987	445,829	82,013	552,199	727,632
Equipment Costs	1,452	5,031	3,512	109,437	215,162	4,326	16,251
Administrative	<u>146,625</u>	<u>507,951</u>	<u>354,318</u>	<u>352,947</u>	<u>64,934</u>	<u>436,733</u>	<u>575,503</u>
Total Costs	\$1,026,116	\$4,270,845	\$4,953,064	\$4,034,234	\$657,998	\$2,509,953	\$3,901,174
Total Deficiency	(325,415)	(1,847,400)	(3,261,524)	(2,350,522)	(348,694)	(424,941)	(1,154,073)
% Deficiency	-46.44%	-76.23%	-192.81%	-139.60%	-112.74%	-20.38%	-42.01%

* For methodology only. Levels are those of an unspecified bygone year, and are not currently indicative

NWMTA Experience in Rate Making. The Pacific Northwest ports began annual rate consideration in 1970. The adoption of vessel length as the dockage charge basis took place in 1969. With some exceptions, rate increases have generally paralleled those of the California ports, although there has been less uniformity of adoption in the Northwest. On occasion, wharfage rates on specific commodities have been exempted from increases.

As a recent factor in ratemaking discussion, there has been pressure on Northwest port districts reported to eliminate supporting tax levies by making the ports self-sufficient.

The Association has shown substantial progress in rate levels over the past 10 years, but a majority of members continue to show deficiencies in the various rate categories as revenues are compared with allocated costs plus rate of return. (Fig. 11).

Pacific Coast Joint Subcommittee Approach

The California Association of Port Authorities and the Northwest Marine Terminal Association, in addition to their respective organizations, have a third Marine Terminal Conference which allows for the discussion of rate matters between the members of the two organizations. The function of the coastwide conference is the establishment of general uniformity, as nearly as possible, for the entire Pacific Coast.

There is no binding action taken during the meetings between representatives of the two Associations. Recommendations on rate matters are taken back to the respective organizations for final action.

Marine Terminal Conferences Under Individual Cost Considerations

Other than the two Pacific Coast groups, the intra-port marine terminal conferences do not use a uniform cost formula as a rate base. Instead they depend on the financial expertise of participating members as a rate position is bargained in the light of marketplace pricing considerations and revenue needs. Experience of the past 10 years in the adjustment of rates to reasonable norms indicates that an unstructured cost base is fully effective during an upward struggle for rate/cost comparability. How successful such a base would be after a "reasonable rate of return" is reached by some or all of the parties is quite a different question and will probably require a type of formula approach that could be generally applicable. That is a question for the future.

Meanwhile, these factors apply:

Cost accounting and cost centering procedures have advanced considerably among all ports over the past 30 years. Most port executives interviewed during this study have a firm knowledge of rate deficiencies of the port.

The application of uniform cost accounting procedures in coastal areas encompassing ranges of states and widely different kinds of port organizations and ratemaking philosophies appears at face to be unfeasible.

"Competition" has been the historic ratemaking consideration among ports east of the Rockies, owing to the great number of port options available to vessel trades and cargo movements. However, attitudes are changing, and cost is becoming, with some exceptions, a dominant factor in ratemaking.

Against that background, Marine Terminal Conference activity on the Atlantic and Gulf Coasts is proving out as successful in intra-port ratemaking.

The South Atlantic Port Association Approach

The ports of the South Atlantic have a long history of rate uniformity stemming from the setting of wharfage and handling charges by three railroads which served all of the ports. The state port authorities of the area adopted the existing tariff charges of the railroads as port development moved under state auspices in North Carolina, South Carolina and Georgia during the early 1950s.

The Marine Terminal Conference covering the ports of the three states was formed about 1965, and was later enlarged to include Jacksonville. The agreement was greatly solidified when member ports adopted a length factor for dockage rate computations during the shelter deck vessel controversy of the late 1960s.

In rate adjustment, the conference deals with all tariff rates of the member ports, and does not restrict itself to certain types or classes of rates. It reviews rates annually. Its record of rate adjustment over the past 10 years has been an active one. A founder member active in the Conference from the beginning recalls no serious complaint in connection with any of the adjustments of rates.

South Atlantic and Norfolk Marine Terminal Association

This Conference is a so-called "bridge agreement" between neighboring port regions, and it is similar in function to that of the Pacific Coast Joint Subcommittee. Rates are discussed but no formal actions are taken.

This agreement originated because rate adjustments in either port area were being made on a partial basis in the absence of consultation with the other.

South Florida Marine Terminal Conference

Three South Florida ports discuss rates from time to time on an informal basis. The Conference is in its infancy and lacks a fully representative membership for its area.

The Mid-Gulf Seaports Marine Terminal Conference

This Conference was formed in 1967 by three Louisiana seaports. The membership began to widen beginning in 1971 and now includes nine Gulf ports ranging from Texas through Alabama, including the major port entities of the area. The Conference discusses rates 3 to 4 times a year.

The general range of tariff rates is dealt with, and the Conference has become the major influence on the level of port rates in the Gulf, despite some continuing abstention of potential additional members.

CHAPTER VI

NORTH ATLANTIC PORT AREA APPROACHES

Unlike the intra-port Marine Terminal Conference encompassing the ports of a coastal area, the large metropolitan seaport centers of the North Atlantic have Section 15 conferences which include the terminal operating entities within the port area. Very broadly speaking, these entities are private operators working on leased facilities or directly leasing facilities from the public port agency at a flat annual rental, or in some instances owning terminals. The operators as a Marine Terminal Conference will agree upon rates and publish a common tariff for the port. If the public port authority is also active in terminal operations to any degree, it may publish a separate tariff, or it may participate in a common tariff with the private operators.

The differences to be considered regarding the North Atlantic are:

A wide variety of operator lessees are involved including individual steamship companies; consortiums of steamship companies; terminal operating companies; stevedores (terminal operating).

The rates of the terminal operating entities are primarily labor-oriented and typically are reviewed as new I.L.A. contracts are negotiated every several years. Dockage and wharfage type charges are reviewed at such times as well.

The manner in which pricing is "packaged" by terminal operators may affect dockage/wharfage levels.

Marine Terminal Conferences

The Marine Terminal Conferences among the major North Atlantic ports are described as follows:

Port of Boston Marine Terminal Association

Principal parties are:

Massachusetts Port Authority, operators of Commonwealth Pier No. 5; Hoosac Pier No. 1; Mystic Pier No. 1; Piers Nos. 1, 3, 4, 5, East Boston; and Castle Island Terminal. Mystic Container Terminal, formerly operated under an MPA tariff, is leased to a containership service.

Port Terminals Co., Inc., operators of Boston Army Base Terminal.

The Association publishes a tariff which shows the regulations and charges of the member terminal operators.

New York Terminal Conference

The Port Authority of New York and New Jersey has developed 75 percent of the facilities in the Port of New York, the remaining 25 percent being owned by the City of New York, except for several steamship owned terminals and one private terminal operator. Although most of the Port Authority's facilities are leased to operating entities, the Authority publishes a tariff. It does so under a "very careful" rate policy in which its rates are set high enough to protect the small operator. The Port Authority does not attempt to control rates of operators but is mindful of the extent to which its published rates may influence other rates.

Operators in the Port of New York, whether lessees of the Port Authority or the City, or terminal owners, have their own Section 15 Agreement, the New York Terminal Conference. The Conference publishes a tariff on behalf of its 10 members showing regulations and charges. Charges published are primarily those for truck loading and unloading; and free time and demurrage.

The Port of Philadelphia Marine Terminal Association

The seven terminal operators encompassing the Philadelphia port area function primarily on piers leased from the Philadelphia Port Corporation, and pay flat annual rentals. The Association publishes a tariff covering regulations and rates for terminal services on a uniform basis. Tariff rates are reviewed by the conference members every 3 years from the standpoint of rental payments, maintenance costs, and utilities costs. Labor-related rates are adjusted as required.

Baltimore Marine Terminal Association

The nine members of the Baltimore Marine Terminal Association publish a common tariff covering their regulations and services. The Maryland Port Administration, operating at Dundalk, Locust Point, and Clinton Street Marine Terminals, and the Maryland Port Administration Produce Terminal, publish their own tariff which governs for those areas. Dockage and wharfage rates in the two tariffs are almost comparable. Several operators have piers for their exclusive use, but function at other locations as well on behalf of steamship lines. Other operators have no fixed base.

The Maryland Port Administration has to date confined leasing of port properties to backland type areas. MPA controls berthing at the publicly-owned terminals which constitute most of Baltimore's general cargo terminal facilities, with a policy of open stevedoring applying.

Norfolk Marine Terminal Association

The five operating entities of the Port of Norfolk (including the Elizabeth River Terminals, the Lamberts Point and Sewalls Point divisions of Lamberts Point Docks, Norfolk International Terminals, and Portsmouth Marine Terminal) publish a common tariff. Most of the operations are conducted on the facilities of the Virginia Port Authority by the lessees. The Authority does not operate.

The Association tariff covers charges, rules, and regulations governing dockage, equipment rental, frozen meat inspection, fumigation, handling of containers, loading, RO/RO service, unloading, wharfage, wharf demurrage, and other miscellaneous port terminal services.

As noted previously, there is a "bridge" type Section 15 Agreement as between Norfolk Marine Terminal Association and the South Atlantic Port Association, under which rates are discussed annually on an informal basis.

Pricing Considerations

Pricing of port usage charges like dockage and wharfage is competitively oriented among the major North Atlantic port centers according to all parties interviewed, with some balancing with other rates. While rates may be reviewed annually, actual upward adjustments take place at 2 or 3 year intervals.

Close watch is kept on tariff revisions, but there is no formal communication between ports as regards rates in the absence of an appropriate Section 15 Agreement. (A specialized Lumber Terminal Conference is an exception). Prospects for a general intra-port conference agreement are not bright, according to principals queried on this point. Factors mentioned are:

Differences in ratemaking emphasis and philosophies among the several types of private terminal operators, particularly those engaged in stevedoring as well as terminal operation.

Disinterest on the part of several principal ports, for deeply entrenched reasons.

Several other major ports who would be interested in exploring the possibilities of a marine terminal conference on the North Atlantic are not optimistic that it could be accomplished beyond a sub-group of some of the ports in the range.

Meanwhile, upward adjustment of dockage and wharfage rates will move at a slower pace than that shown for the more organized regional approaches.

CHAPTER VII

PORT PRICING ON THE GREAT LAKES

The activity shown by port usage charges beginning some 10 years ago as a result of factors discussed in Chapter I has yet to take place among United States Great Lakes ports. With a couple of exceptions, pricing on the Lakes remains static in the manner once commonplace among seaboard ports. Comparative levels are as follows:

	<u>Dockage*</u>		<u>Wharfage**</u>	
	<u>1968</u>	<u>1977</u>	<u>1968</u>	<u>1977</u>
National average	\$282	\$566	\$.57	\$1.31
Seaboard Ports				
Average of Eleven		\$286		\$.34
Great Lakes Ports				

As may be seen, the majority of ports on the Lakes could be said to be a decade behind in the level of their pricing of the major usage charges. Various reasons are given for this phenomenon. They include:

The Great Lakes is an emerging area for international trade with no established trade patterns. The prevailing philosophy remains one of "developmental rates".

In some cases, overgenerous lease terms permit low rates by operators.

Intermodal competition from seaboard port centers has depressed the Great Lakes general cargo picture. A competitive factor with other forms of transportation applies.

* One day's dockage, C-3 type vessel

** Rate per ton

Seaway tolls require some offsetting as a competitive matter.

The practice among various private operators is to absorb all or a portion of usage rates into labor-oriented rates, therefore usage levels should not be compared out of context.

Upon examination, only the last of these reasons has some validity (several ports charge no wharfage as such; it is included in "handling" or "transfer"). Tolls may have partial validity from the standpoint of dockage in view of the previously noted effect of accessibility upon this charge (see Chapter IV).

The other reasons are not necessarily peculiar to the Great Lakes. They apply at various coastal ports as well in some degree.

The Toledo Experience

Of the Great Lakes ports examined on an historical basis, only Toledo shows pricing movement comparable to seaboard trends. As outlined by Frank E. Miller, Seaport Director, Toledo-Lucas County Port Authority, this was the result of a specific policy that changed the pricing posture of the port. He has described the program as follows:*

"Until a few years ago...we set what we called 'developmental rates'. The idea was that we'd give away services to attract customers...They were basically what retail marketing people call 'loss leaders': we sacrificed direct revenues in the hope of getting the facility working.

"Although this concept worked well initially...we have changed that policy. Because of the concentrated time span of our experience, it might serve as a case study for others in determining what happens when a port begins charging what its services are worth, rather than what it thinks it can get.

"In the beginning, as operations manager for the Port Authority, most of my time was spent on the docks.

* Panel Discussion on Port Pricing, AAPA, October, 1977, Mexico City.

I was able to talk to ships' officers, agents, and others and determined that we at the Port of Toledo often went out of our way to perform tasks that other Great Lakes ports weren't so willing to do. I knew that our cargo handling efforts were pretty efficient and all in all, our port was highly productive in contrast to some of our competition, both on the lakes and on the other coasts. Knowing what rates we were charging, it didn't take us long to decide that we were giving more service than we were being paid for.

"We decided that no matter how much or how little we worked, at those times when we did, the Port Authority should be getting paid for it.

"...So, in 1975, with the full cooperation of our Board of Directors we instituted a few increases in crane charges, leases, wharfage and dockage, and other service areas. This reflected an across the board increase of about 20 percent.

"Business did not go away. In fact, it got better... 90 percent better over the next 2 years.

"Now, I'm not going to sit here and say that higher tariffs brought in more business. Of course not. For us, 1975 was the first year that a number of new factors took hold in the national economy, the international trade picture, and the steamship industry. These combined to help business on the Great Lakes generally. In addition, the Port Authority and our primary terminal operator undertook a new trade development effort that produced for us a little more action than at some of the other lakes ports.

"Still, as far as we can tell...and our staff has just finished a financial analysis to support this...it is my feeling that business probably wouldn't have suffered even if economic conditions had remained at their pre-1975 levels.

"The bottom line on this is that in the last 3 years we have increased revenues at the Port of Toledo by 25 percent. We are now well on the way toward self-sufficiency...

"...I think we were able to raise rates and hold on to business because we consistently offered solid service

almost from the beginning. We developed a reputation as a supplier of the kind of specialized service that has been in demand in our port range. You see, even at increased rates, our customers were getting what they paid for and they knew it."

Marine Terminal Conferences on the Great Lakes

Among port associations of the Great Lakes, those involving public port authorities mainly concern themselves with the broader developmental aspects of the port region and are not set up as Section 15 type organizations. The U. S. Section of the International Association of Great Lakes Ports did agree to exchange tariffs among members (about 1971) but that is believed to be the extent of broadly based pricing considerations.

In several Great Lakes port centers there has been substantial private investment in general cargo facilities, and there is also a considerable amount of leasing of public facilities to private operators at the larger Great Lakes port centers.

There are several Section 15 type Marine Terminal Associations among private operators owning terminal facilities.

Port of Detroit Operators Association

Four operators of marine terminal facilities at Detroit publish an Association tariff. They are Detroit Marine Terminals, Inc., Detroit Marine Terminals II (Clark St.); Federal Marine Terminals, Inc.; and Nicholson Terminal & Dock Co.

Lower Lake Michigan Terminal Association

Three operators of marine terminal facilities at Chicago publish an Association tariff. They are Federal Marine Terminals, Inc.; International Great Lakes Shipping Company (Chicago Terminal); and Transoceanic Terminal Corporation. These companies are based at Calumet Harbor.

A fourth organization, Ceres Incorporated, operates under its own tariff at Calumet Harbor and at Navy Pier in Downtown Chicago.

The Chicago Regional Port District publishes an individual tariff for its Lake Calumet facilities. This is a public port agency set up under State auspices.

There are two tariffs published at Toledo: one by the Toledo-Lucas County Port Authority and another by a lessee,

Toledo Overseas Terminal, operating a portion of the port.

There are two tariffs published at Cleveland: one by the Cleveland-Cuyahoga County Port Authority and another by a privately operated terminal, Cleveland Stevedoring Company.

At Duluth the tariff is published by North Central Terminal Operators, Inc., who are "Managing Agents" for the Seaway Port Authority of Duluth.

At other Great Lakes ports tariffs are published by the respective public port authorities.

CHAPTER VIII

LEASING OF

MARINE TERMINAL FACILITIES

The leasing of a marine terminal facility under a long term arrangement for the exclusive use (or quasi-exclusive use) of the lessee is a form of volume pricing in that the user utilizes the entire terminal on a continuing basis. While some leasing practices allow the lessee to retain dockage and wharfage revenues, many such leases (and assignments) apply only to use of the premises for operating purposes, with the dockage and wharfage revenues flowing to the public port authority.

For public port authorities of various coastal areas (other than North Atlantic and Great Lakes)* the combined total of dockage and wharfage revenue constitutes 40 percent to 45 percent on a surprisingly consistent basis by coastline. Thus, more than half of total port revenue is from sources other than these depressed usage charges, namely operating income in the case of operating ports; penalty charges such as wharf demurage; storage; and rentals from leases.

The interview series conducted for this study found much interest in and movement towards leasing type arrangements as a phase of port pricing, even among ports which by long tradition and competitive posture are operating ports. Responsible impacts and factors cited in Chapter I, include:

Generally increased trade flows assuring utilization potentials.

Shipping technology requiring a high level of terminal investment and assurance of amortization.

As one executive puts it (commenting on a major terminal lease under negotiation as the first of its kind for the port),

* Not included because of the variety of operating arrangements.

"We are in a new era of a harder look at money return versus the subsidy for cargo flow."

Types of Lessees

Leasing from a revenue point of view offers the advantage of calculating a fair return on a facility and guaranteeing that return. There are other advantages, which depend upon the type of tenant.*

Steamship Line. The steamship line is a desirable major tenant and will be an aggressive salesman of cargo through the port, including in most instances a developed sales organization. Steamship line leases which allow the tenant to act as general agent for other lines, or which allow subleasing to general agents, are good insurance against the single user disadvantages.

General Agent. The general agent as a lessee also brings the advantage of aggressive salesmanship of the facility and he adds a desirable multiple use factor. While good insurance, this multiple use factor has its typical problems. These may take the form of facility congestion if there are new customers, or under-utilization if there is a loss of clients.

Terminal Operator/Stevedore. Again a desirable lessee in the form of an aggressive, multiple user organization. He will typically maximize facility use to get the most for his rental payments, including the introduction of improved cargo handling equipment and methods. With assurances of tenure and a fixed rental rate, he may use his own capital for major improvements. Under present technology, user financing of highly specialized equipment becomes not only desirable, but many times necessary. He will, of course, seek cargoes and vessels that produce maximum profit for his company, and this, to some extent, will affect the public service posture of the port. Because a number of operating public port officials are themselves becoming more cargo-selective as a result of recent economic trends, that consideration seems academic.

Steamship Consortium. The consortium is a small group of steamship lines, usually container lines, which will lease a

* See remarks of A. L. King, Director of Marine Terminals, The Port Authority of New York and New Jersey, 1969 AAPA Convention, San Francisco.

marine terminal for their common use to share the high cost of the expensive specialized equipment. Through a wide range of services and ports of call, it offers strong service advantages. Although there are some problems of coordination in the terminal operations aspect, the consortium can achieve a high degree of utilization.

The revenue advantage of terminal leasing becomes apparent in the bottom line, in the ability of the lessee through maximum utilization to provide rentals at a level that will amortize the land and structure investment.

Methods of Terminal Leasing

Marine terminals are leased under three general kinds of methods. These are:

Fixed annual rental (amortization plus appropriate return)

Rental based on revenue sharing

Rental based on efficiency of the terminal

Of these, the fixed annual rental is the oldest and still the most common. It is a long-term lease, as are the majority of marine terminal leases (as versus a short-term lease which is generally defined as being from 1 to 10 years).

Rental Based on Fixed Annual Schedule

The pricing of a typical marine terminal lease under amortization plus appropriate return consists of converting land and facility costs to an annual basis that includes the rate of return, and adding other fixed annual costs. Assuming a 30-year amortization period, the method is outlined as follows:

	<u>Total Cost</u> (including debt service)	<u>Annual Cost*</u>
Land valuation	-	1/30th + rate of ret.
Facility cost	-	1/30th + rate of ret.
Sp. Facil. (cranes, etc.)	-	1/20th + rate of ret.

Annual Costs

Maintenance	-
Share of Utilities	-
Insurance	-
Dredging	-
Administration	-
TOTAL ANNUAL COST (as basis of annual rental)	-

The advantage of this type of lease is its certainty of amortization, given selection of financially sound tenants of good integrity. Principal disadvantage is the fixed nature of the rental throughout the life of the lease. This disadvantage is disappearing because of present day impacts. Where once it was rarely possible to negotiate an escalation clause in the shipping business, many marine terminal leases now carry provision for periodic review (5 years is a commonly used period).

Industrial Development Bonds

Another type of lease at fixed annual rental involves the use of an industrial development bond, for example, issued by the port authority for the construction of a wharf facility, which is then leased to an operator under rental payments that guarantee retirement of principal and interest of the bond. Because the interest is tax-free, this type of revenue bond offers a saving to the private lessee as compared to financing of the facility through corporate bonds. This type of bond is restricted as to maximum amount by IRS, as well as to types of uses in which it may be applied. The pricing of lease rentals remains based upon an amortization schedule, as before.

* A commonly used guideline is $1\frac{1}{2}$ times debt service as a target rate of return.

Rental Based on Revenue Sharing

This type of lease was developed on the Pacific Coast, originally to preserve the basic tariff structure of the region by making cargo throughput at tariff rates an element of the lease payment. These leases mainly involve container terminals and some of them, made in a period when long-term commitments towards revenue financing were a critical competitive consideration, contain maximums which, when reached, satisfy the annual rental requirement allowing the operator to function rent-free for the balance of the year. In such a lease, an increase in the wharfage and dockage tariff rates only enables the lessee to reach the maximum sooner, resulting in no increase in revenue.

Later leases of this kind contain a participation after the maximum. They are constructed as follows:*

1. A fair annual rental value is determined in much the same manner as for the fixed annual lease previously described. A minimum acceptable rental, such as 75 percent is set.
2. The lessee collects and remits to the port authority tariff charges until they reach 100 percent of the fair rental value.
3. Thereafter the tenant remits an agreed upon percentage of tariff charges to the authority (usually 50 percent).

The advantage of this method lies in its flexibility, the port authority being assured of at least 75 percent of fair rental value in slack times, and excess revenues while the operator enjoys periods of reduced throughput cost.

Another kind of revenue sharing has been pioneered for break-bulk facilities, to assure continued facility use in a period of a depressed market in the break-bulk trades. The rental is constructed as follows:

1. The fair annual rental of the existing lease agreement is set as a maximum annual rental.
2. One-half of the fair annual rental is set as the minimum annual rental.

* See also remarks of F. B. Crawford, General Manager, Port of Los Angeles, 1977 AAPA Convention, Mexico City.

3. Rental, between the maximum and minimum, is determined at a rate of \$2.00 per revenue ton handled through the premises.

The maximum is designed to encourage users to confine operations to a smaller number of piers as an assurance of operational success. The minimum is designed to encourage as many carriers as possible to use the port.

The FMC, in approving this rental approach for six leases, found that the \$2.00 per ton figure was as high or higher than similar rentals for other local marine terminals, and similar rentals in other port areas, and thus could not be said to be predatory.

Rental Based on Terminal Efficiency

During the 20-year period 1945/65, a prominent theory of port development was to build the most efficient break-bulk facilities possible to attract the types of lessees discussed earlier in this Chapter. Such operators, it was reasoned, would bring with them a built-in range of clients, and attract new clients, resulting in large blocks of port commerce. Rental on the basis of terminal efficiency is an extension of that theory, used to provide a discount for the use of older and less efficient berths.

The concept was first employed in a major North Atlantic port under a survey made (about 1960*) rating the operating efficiency of each of the city piers in terms of berthing, shed space, apron width, aisle space, and other factors. A pier, then the most modern, was rated for rental, and other facilities were discounted from that level in accordance with their efficiency ratings.

A modern example of the concept is in use in connection with preferential assignments** used in lieu of terminal leases by a

* This was the so-called "Buckley Formula" named for the consultant. No copies survive. Leases were renewed or renegotiated with the advent of a newly formed public port agency (1965). Several major port facilities constructed later were leased on a bid basis.

**A preferential assignment gives the holder "first call" on berth privileges, which, at a high level of terminal utilization, is equivalent to exclusive use. Like rental, the charge is based on square foot per year.

major Gulf port. In this application some 40 wharves were graded on a point scale as to

Front apron width
 Front apron uniform load
 Shed deck (wood or concrete)
 Shed Uniform load
 Shed clearance
 Shed column spacing
 Shed lighting
 Rail service (none, rear, front and rear)
 Truck service (none, or truckwell)

Based upon lengthy consultation with operators, a point rating was set up for each of the above features and terminals rated as follows:

		<u>Sq. ft/yr*</u>
75 to 100 points	Group A	\$.80
50 to 74 points	Group B	\$.60
0 to 50 points	Group C	\$.48

This concept has been in use since late 1976, its use having been approved by the FMC.

Other Leasing

The above discussion has been limited to the principal types of marine terminal leases. Seaports engage in other leasing, including land rentals and/or building rentals to business and industry. The levels of these rentals are determined in the usual manner, with computation of the value of the land and the value of the improvements, plus a rate of return. The local market for similar rentals is then reviewed, and the rate is adjusted upward or downward accordingly.

The rental of smaller space units within a marine terminal is negotiable at most ports, although a rate per square foot is set forth in some port tariffs. Space contracts exist at publicly operated container terminals, usually on a 5 year basis. Sometimes these will freeze crane rentals for the period of the lease as a competitive inducement.

* These were introductory rates in a graduated 5 year schedule.

Regulatory Requirements in Terminal Leasing

The leasing of a marine terminal facility takes the revenue from that facility outside of the scope of tariff rates as well as outside of Section 15 Marine Terminal Agreement practices in connection with such rates. Such leases must, however, be filed with the FMC and approved by that agency to assure that they are not unlawful, unfair, discriminatory or prejudicial. The same provisions of the Shipping Act of 1916, cited previously in connection with Marine Terminal Conferences, also apply to lease agreements.

Because of the number and frequency of port-lease agreements, and the fact that many of them are not marine related and therefore not of interest to the FMC, the Commission offers guidelines for the filing of leases. In general, leases should be filed when parties to the lease are considered "persons subject to the Act", generally including those involved in marine terminal services in connection with a common carrier by water. Agreements between such persons subject to the Act are required to be filed when they fix or regulate rates, rules, regulations, or charges, or, in the applicable instance, "allow the lessee to receive special rates, accommodations, or privileges by deviating from established tariff charges through a fixed rental in lieu of tariff rates, or rental payment based upon tariff charges with a maximum payment established".

When Terminal Agreements are Not Required to be Filed

Although precautionary filings are the rule rather than the exception, the FMC guidelines state that agreements covering the lease, license, or assignment of marine terminal facilities are not subject to Section 15, Shipping Act, 1916, when they:

- (1) Are between two persons either of whom is not subject to the Act;
- (2) Do not include terminal facilities for the handling of cargo or passengers moving in foreign or interstate ocean commerce;
- (3) Are not related to terminal facilities which handle, or hold themselves out to handle, common carrier vessels in foreign or interstate ocean commerce;

(4) Cover only lease of space to stevedores for offices and/or for storage of gear, provided that rental for such space is a fixed amount not in excess of \$10,000 annually;

(5) Concern routine day-to-day terminal operations involving the temporary assignment of berth, wharf, or pipeline, or the rental of equipment, when provided for in a tariff or by a license or permit form which has previously been determined to be not subject to Section 15;

(6) Concern terminal services, the charges for which appear in a tariff and are available to all applicants on equal terms.

Appropriate Rate Levels as Viewed by the FMC

In a very recent decision (March 31, 1977) the Federal Maritime Commission said:*

"As a general rule, the Commission has required that terminal facilities be furnished at a rate no lower than the terminal owner's or operator's fully distributed costs in order to prevent unlawful discrimination to other ports or terminals, and to avoid jeopardizing the financial soundness of terminal operations."

"This rule finds support from the principle that public piers and marine terminals are considered public utilities for regulatory purposes since they are necessary to the business of supplying the shipping public with a service needed in the furtherance of the commerce of the United States and ocean carriers and the shipping public are dependent upon the economy, efficiency, and soundness of terminal operations."

"The Commission, however, in exercising its broad discretionary authority to determine whether the terminal practices or the actions generally of public port authorities are unlawful has accorded public port authorities discretion in making managerial decisions which affect port operations so long as the Port Authority has not acted unreasonably or contrary to the provisions of the Shipping Act, 1916."

* Dockets Nos. 74-35 and 74-42, involving Pouch Terminal, Inc., v. The Port Authority of New York and New Jersey.

CHAPTER IX

OTHER USAGE CHARGES

Aside from dockage and wharfage, there are a number of other kinds of charges for the use of marine terminal facilities where there are no services involved in connection with the charge. None of these are general to all coast lines to any degree. They are discussed here by type and application as used in various port regions.

Service and Facilities Charge

This tariff charge is common to the ports of the Pacific Northwest. While primarily a usage charge, it is intended to cover some accessorial services of a clerical and custodial nature. Tariff language describes it as:

"Service and Facilities charge, except as otherwise provided, is assessed to vessels for the use of terminal working areas in the receipt and delivery of cargo to and from vessel and for services in connection with the receipt, delivery, checking, care, custody, and control required in the transfer of cargo: (A) From vessels to consignees, their agents, or connecting carriers, or (B) From shippers, their agents, or connecting carriers to vessels."

The Service and Facilities charge is applied by the ton of 2,000 lbs. on a commodity basis. 1977 N. O. S. rates for 11 Pacific Northwest ports ranged as follows:

	<u>Inbound</u>	<u>Outbound</u>
1	\$6.67	\$4.22
2	\$6.31	\$4.00
3	\$6.31	\$3.99
4	\$6.06	\$3.84

	<u>Inbound</u>	<u>Outbound</u>
5	\$6.05	\$3.83
6	\$5.68	\$3.61
7	\$5.01	\$3.24
8	\$4.46	\$3.83
9	\$4.33	\$2.74
10	\$4.24	\$2.72
11	\$3.98	\$2.99

For application of this charge in connection with the uniform cost formula of the Northwest Marine Terminal Association, consult Chapter V.

Shed Hire

A somewhat similar charge is applied by Gulf Coast ports, although in most cases it does not purport to include any accessorial services. As defined in tariff language, shed hire, also known as sheddage, is accompanied by an alternative charge for wharf use and marginal track use in the absence of shed use. One such definition reads:

"Sheddage"

"The charge assessed against a vessel for the use of a transit shed, sheds, or other facilities or areas provided for receipt and delivery of cargo to and from the vessel."

Another tariff definition describes shed hire as:

"A charge against vessels for the use of covered wharves, based on the gross tonnage or length of the vessel. This charge is in addition to the dockage charge. The ship is responsible for this charge."

Shed hire may also be assessed by the ton, on the amount of cargo handled, the ship being responsible for the charge. Variations of the charge as applied by Gulf Coast ports are as follows:

Ports Assessing Shed Hire by Vessel Size

<u>Shed Hire</u>	<u>Wharf or Track Use</u>	<u>No. Ports Using</u>
6¢ GRT/Day when working cargo	Same	1
3¢ GRT/Day when not working cargo		
By vessel length on graduated scale (\$362 for 495' C-3)	Same	1
5¢/GRT period of 15 days or less	Same	1
2½¢/GRT period of 16th thru 21st day		
Sched. repeats after 21st day		
4¢/GRT period of 16 days or less	Same	2
2¢/GRT period of 17th thru 21st day		
Sched. repeats after 21st day		
Same, but applied whether or not shed or wharf is used	Same	1
3¢/GRT period of 16 days or less	Same	1
1½¢/GRT period of 17th thru 21st day		
Sched. repeats after 21st day		
3¢/GRT each period of 16 calendar days or less	Same	1

Ports Assessing Shed Hire by Volume of Tonnage Handled

<u>Shed Hire</u> (tons of 2,000 lbs.)	<u>Wharf or Track Use</u>	<u>No. Ports Using</u>
Under 500 tons	\$100	Same
500 and under 1,000 tons	150	1
1,000 " " 5,000 tons	250	
5,000 tons and over	350	
Under 200 tons	\$110	n/c
200 and under 500 tons	140	1
500 " " 1,000 tons	196	(includes
1,000 " " 5,000 tons	370	cleaning &
5,000 tons and over	470	watchman service)

Ports Assessing Shed Hire by Volume of Tonnage Handled (cont'd)

<u>Shed Hire</u> (tons of 2,000 lbs.)		<u>Wharf or Track Use</u>	<u>No. Ports Using</u>
Under 1,000 tons	\$150	n/c	1
1,000 and under 5,000 tons	250		
5,000 tons and over	300		
Min. Charge	\$100	Same	1
500 and under 1,000 tons	150		
1,000 " " 2,000 tons	200		
2,000 " " 3,000 tons	250		
3,000 " " 5,000 tons	350		
5,000 " " 8,000 tons	400		
8,000 " " 12,000 tons	500		
12,000 tons and over	650		
Under 200 tons	\$ 25	Same	1
200 and under 500 tons	50		
500 " " 1,000 tons	75		
1,000 " " 5,000 tons	150		
5,000 tons and over	250		

Ports Assessing Shed Hire on a Mixed Basis

Outbound Cargo: 3¢/GRT of vessel	n/c	1
Inbound Cargo: 20¢ ton of cargo unloaded		

Ports Not Assessing Shed Hire

3

There is some relationship between the size of the port and the use of vessel size as the basis for assessing Shed Hire. All of the major Gulf ports use vessel size for levying this charge.

The Charge for "Usage"

Although the word usage has been used generically throughout this Report, there is a specific meaning to the term usage charge as it appears in port tariffs. The charge applies to usage of terminal facilities by outside parties performing their own services in connection with truck loading or unloading and truck/

ship transfer. It may also apply in connection with use of the terminal by outside crane equipment. The charge is also used in connection with usage of port railroad tracks of a per-car basis, or by the ton handled. Examples of usage charges are as follows:

North Atlantic Examples

Usage performed by others	Cargo, NOS	\$2/ton
	Lighter LUL	18¢/cwt
	Car, truck "	15-25¢/cwt
	General	\$1/ton
	General	17¢/cwt
Track usage (car basis)	\$30/car in or out, truck/car movements	
	\$5/car as ordered	

South Atlantic Examples

Usage performed by others	17¢ ton (2240)	Gen. cargo
	6¢ " "	Bulk
	28¢ M/Bd/Ft	Lumber
Track usage (car basis)	\$10/car	

Gulf Examples

Usage performed by others	\$4.50/car; 15¢ ton hdld/truck
	Ship/truck 10¢/ton
	\$1.50/truck LUL 10,000 lbs. or more
	10¢ net ton or 40 cu. ft. aeration, bagging, bracing, etc.
	Car/ship/truck
	Wharfage plus \$1/ton 30 days shedded
	50¢ ton 30 days open

Examples of Usage Charges (cont'd)Gulf Examples (cont'd)

Track usage (car basis)	\$1.50/car		
Use of wharves by privately owned cranes (per hour)	Caterpillar or solid tires	Pneu. tires	Other _____
	\$4.00	\$3.00	\$2.00
	\$2.50	\$1.50	\$2.00

California Ports Examples

Usage performed by others	Inbound autos: 30¢/ton
	Bulk: 36¢/ton barge/vessel \$1.10/ton vessel/hopper/ truck
	Service and Facilities Charges open to negotiation most ports
Track usage (car basis)	\$5/car/day \$10/car/day after 4 days 3 days free to lessee or vessel

Pacific Northwest

No specific charges this type found

Great Lakes Examples

Usage performed by others	3¢/cwt. gen. \$1.25/ton tank-truck/vessel \$1.75/ton tank-car/vessel \$5/truck LUL
Usage, cargo not involved in water transportation	Cars: \$7.50 in, \$7.50 out Trucks: \$2.50 in, \$2.50 out \$1.10/ton

Space Assignments

Tariff rates for space assignments do not appear in the published charges of most ports, being akin to rentals. An exception appears among some California tariffs involving "Temporary Wharf Assignments" or "Space Assignments". Examples, in cents-per-square-foot-per-month are:

Covered	9	9	10	
Paved	2 3/4	2 3/4	3	negotiable
Unpaved	2	2	1.7	negotiable
Rocked			2.1	
Trucks & rail docks			14	

Other methods of charging, in addition to the above are:
 "Inside: \$1,520/mo, Section; Outside: 5¢/sq ft/mo, 4¢ over 25,000"; and "\$.000625/sq ft/day, wharf areas".

First Call on Berth Privilege

This usage type charge is employed by some Gulf ports. An example appears under Chapter VIII: Leasing of Marine Terminal Facilities. Other examples of the charge are: 4¢/sq ft/yr; and 16¢/sq ft/yr.

Stevedore Use Charges

There is a showing of charges for stevedore use of office space (\$7.50/day) and for equipment maintenance space (\$2/sq. ft./yr). Beyond these examples stevedore use as a tariff item is charged on a tonnage basis mainly on the South Atlantic, where it appears in these forms:

17¢/ton (2240)	general cargo
6¢/ton "	bulk cargo
17¢/ton (2240)	general cargo
6¢/ton "	bulk cargo
28¢/M bd ft	lumber
15¢/ton (2240)	general cargo
9¢/ton "	bulk cargo
14¢/ton (2240)	general cargo
8¢/ton "	bulk cargo
8¢/ton "	container cargo

In other areas this charge is not broken out from other rates such as for space assignments on a square footage basis of the general usage charges.

License Fees

Various kinds of license fees are in use among United States ports on various coastlines. Examples are:

Stevedore licenses: Vary from \$500 to \$1,500/year at individual ports. Some @ \$250/yr with \$1,000 application fee.

Terminal Operator licenses \$500/yr; \$250/yr. with \$1,000 application fee

SS Agents licenses: \$100/yr; \$50/yr.

Harbor and Harbormaster Fees

This type of fee is levied on a per-vessel basis and is of two basic kinds:

Fire Protection and Prevention Harbor Fee

Used at several Gulf ports for administration, maintenance, and policing in connection with fire protection and fire fighting equipment.

Examples:

Vessels in excess of 200': \$150/vessel

Vessels in excess of 250': \$150/vessel

Harbor Fee or Harbormaster Fee

Used at various ports (South Atlantic, Great Lakes, Gulf) for purposes such as maintaining turning basin, channel, and regulating traffic; defraying operation and maintenance of harbor; etc.

Examples:

Less than 100 GRT \$2.50/vessel

101 to 500 " \$5.00/vessel

500-plus \$.01/GRT

Up to 100 GRT \$ 2.50/vessel

101 to 500 " \$ 5.00/vessel

501 to 2,000 " \$10.00/vessel

2,000-plus \$20.00/vessel

Up to 200 GRT \$10.00/vessel

201 to 500 " \$15.00/vessel

501 to 1,000 " \$20.00/vessel

1,000-plus " \$25.00/vessel

\$25.00/vessel; \$60.00/vessel; \$20.00/vessel in excess of 1,000 GRT; \$50.00/vessel in excess of 1,000 GRT; 10¢/ton all commodities moving over docks; are other examples of this fee.

Additional ports indicate they have a harbor fee under consideration. Care must be taken that the fee results in a specific service of benefit to the vessel, for constitutional reasons relating to free access to harbors.

Environmentally Oriented Fees

Another new and growing tariff application is the environmentally based fee. While there are a relatively few examples in existence, a number of others are under consideration at various ports.

Examples in being:

Use of sanitary waste receptacles:	\$5.00/hr
Ballast discharge facility use:	\$300/vessel; per use
	\$ 50/barge; " "
Environmental Service Charge	2¢/ton bulk cargo

Temporary charge with \$5-million limit for environmental protection costs in connection with harbor deepening project. Funds to be expended by Corps of Engineers.

CHAPTER X

METRIFICATION

In keeping with the Metric Conversion Act of 1975, there has been steady progress toward metrification among U. S. ports as evidenced by their tariffs. With but a few exceptions those ports using LOA as a basis for dockage, shed hire and other charges based upon vessel dimension carry a metric column in addition to length in feet. In some instances the length in meters is used exclusively, the footage column having been dropped.

There is no evidence seen as yet regarding metrification impact upon traditional approaches to net and gross tonnage of vessels.

In those areas where wharfage is charged on the weight or measurement ton "as manifested", or "as freighted", several ports have approached conversion to the metric system. There are two approaches in use:

1. "When freight charges are computed by the vessel using the metric system and are shown on the manifest on the basis of either weight (metric tons of 2204.6 pounds) or measurement (cubic meters of 35.315 cubic feet), the metric tons shall be converted to short tons of 2,000 pounds and the cubic meters shall be converted to measurement tons of 40 cubic feet using the conversion factors shown below:"

<u>To Find</u>	<u>Given</u>	<u>Multiply</u>
Metric Tons	Short Tons	Short Tons by 0.907
Short Tons	Metric Tons	Metric Tons by 1.102
Metric Tons	Long Tons	Long Tons by 1.016
Long Tons	Metric Tons	Metric Tons by 0.984
Kilos	Pounds	Pounds by 0.4536
Pounds	Kilos	Kilos by 2.2046
Cubic Meters	Measurement Tons (40 cu. ft.)	Measurement Tons by 1.133
Measurement Tons (40 cu. ft.)	Cubic Meters	Cubic Meters by 0.883
Cubic Meters	MFBMs (Ft. B.M. in thousands)	MFBMs by 2.36
MFBMs (Ft. B.M. in thousands)	Cubic Meters	Cubic Meters by 0.424

Metric Equivalents:

- 1 Kilo = 2.2046 Pounds
- 1 Pound = 0.4536 Kilos
- 1 CWT (US - 100 Pounds) = 45.359 Kilos or 0.04536 Metric Tons
- 1 CWT (British - 112 Pounds) = 50.802 Kilos or 0.0508 Metric Tons
- 1 Bushel Grain (US) = 60 Pounds = 27.216 Kilos
- 1 Cubic Meter = 35.315 Cubic Feet
- 1 Cubic Foot = 0.0283 Cubic Meters
- 1,000 Ft. B.M. = 83.33 Cubic Feet
- 1 Cubic Meter = 423.792 Ft. B.M.
- 1 Barrel (US - 42 Gallons) = 158.987 Liters

2. "Rates named in this item (wharfage) are in cents per 1,000 kilos, or per cubic meter, as manifested by the vessel for revenue purposes."

Freight NOS

Foreign and Offshore Traffic	Wharfage
Per 1,000 Kilos.....	287¢
Per Cubic Meter.....	230¢

In the second approach, the conversion has already been made so that the traditional ratio of weight and measurement cargo is preserved for pricing purposes.

(The traditional break-point at which cargo becomes measurement tonnage is 40 cubic feet per ton of 2,000 lbs.,

or over 50 lbs. per cubic foot. The ratio of a cubic meter (35.315 cu. ft.) to 1,000 kilos (a metric ton of 2,204.6 lbs.) is 62.43 lbs. per cubic foot. The difference is 12.43 lbs. per cubic foot or 497.20 lbs. per 40 cubic feet, or about a 25 percent increase in the break point.)

In general terms as regards conversion, "Maritime Metrification", a recommended metric conversion plan for the U. S. Maritime industry, notes that for port authorities the timing of the changeover in port operations will depend upon prior action by a large number of other organizations. The study done by the Maritime Transportation Research Board; The National Research Council; National Academy of Sciences; says that years 2 and 3 of the national conversion program should see activity involving tariffs and charges. Because these years were theoretically 1977 and 1978 in accordance with an estimated time frame, metrification in public port operation may be said to be on schedule.

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